THE EFFECT OF SEATING ARRANGEMENT AND GENDER ON SPEAKING STYLE

By

ANITA RAGHAVAN

A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

1989

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Dedicated to Parappil Sankar Menon

ACKNOWLEDGMENTS

The very first group that deserves thanks is my family, both real and adopted, for all their love and caring. I have always known that I could turn to them when things got too rough. It is because of this invisible safety net that I have been able to explore all my avenues of life and to take some potentially awful risks.

Deepest appreciation is also expressed to my friends and colleagues. In this group I include those scattered all over the world and those that live in Gainesville. Their words of encouragement, their deeds of assistance, and their acts of friendship have always been and always will be a joy to me. I only wish the whole world could be made up of more people like them. This thought goes specially to Carole Robic, Kim O'Brien, Leisha Billmeyer, and Pattana Aviphant.

A special thank you to another wonderful friend, the chairperson of my doctoral committee, Dr. Normal Markel. It was an honor to work with such a kind, generous, understanding, concerned, witty, and good-natured person. He always had my best interests and dreams at heart, and I sincerely hope that I can help other people as much as he has helped me.

This may seem like a strange acknowledgment, but I wish to thank the State of Florida. That huge administrative body always came through, in one way or another, to support and fund my education. I will never forget my emotion of stunned delight when I got my first job as Media Assistant at the University of South Florida through the State of Florida's O.P.S. system for students.

I wish to thank all the members on my doctoral committee. They have been kind, helpful, and thoughtful. Their office doors were always open to me and I have thoroughly enjoyed all the lively discussions that we have had both in and out of the classroom.

This leaves me to acknowledge Robert Lawless, the most important person in my life. His love, patience, and cherishing has made my whole life worthwhile.

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Abstract of Dissertation Presented to the Graduate School
of the University of Florida in Partial Fulfillment of the
Requirements for the Degree of Doctor of Philosophy

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By

ANITA RAGHAVAN

August 1989

Chairman: Norman N. Markel
Major Department: Speech

Tape recordings of narrative content when seating arrangement was manipulated were used. Four females listened to twenty-four male and twenty-four female narrators. The data gathered represented seven variables of speaking style--vocal clarifications, repetitions, vocal segregates, self-reference, phonetic phrases, verbal productivity, and vocal segregates combined with vocal clarifications. Volunteers were put into prearranged seating environments and given instructions designed to elicit a narrative. They told this narrative to a female confederate friend. Research addressed questions concerning whether changes in the seating arrangement and gender of the dyads had a significant influence on vocal clarification, repetitions, vocal segregates, self-reference, phonetic phrases, verbal productivity, and vocal segregates combined with vocal clarifications. Results of the study were analyzed in relationship to the trends suggested by the pilot study and to the results of tests conducted on individual listeners. Results showed that in some dyadic situations seating arrangement had an effect on self-reference, vocal clarifications, and phonetic phrases. In some dyadic situations gender influenced repetitions, vocal segregates, and phonetic phrases. As these trends were not noticed across all listeners, the study ends with a discussion of the results and with suggestions for future data gathering.

CHAPTER 1
INTRODUCTION

Proxemics and Seating Arrangement

Hall in the seminal book The Silent Language (1959) invented and gave academic recognition to the term "proxemics" as the study of spatial relationships in social contexts. Hall's effect on interdisciplinary research was practically instantaneous. By 1969, exactly ten years later, Jones and Aiello (1979) cited a bibliography on proxemic research that ran to roughly 500 articles. They further said that by 1979, twenty years after Hall's original work, that bibliography had been expanded to 900 entries. Watson elaborated on existing proxemic theory in "Conflicts and direction in proxemic research" (1972), conceptualizing two classes of variables that determined proxemic behavior, naming them "environmental" and "interactant." "Environmental" characteristics were factors such as the amount of physical space available in an immediate environment, the population density of the environment, the amount of sensory stimulation available in the environment, and the furniture arrangement in the environment. "Interactant" variables included the gender of the interactants, their status toward one another, and the roles that they played.

Paying particular attention to nonverbal communication, Knapp (1978, 1980) and Knapp and Miller (1985) stated,

> nonverbal communication should not be studied as an isolated unit, but as an inseparable part of the total communication process. Nonverbal communication may serve to repeat, contradict, substitute, complement, accent, or regulate verbal communication . . . the tremendous quantity of informational cues it gives in any particular situation, and because of its use in fundamental areas of our daily life. (1980:21)

Sommer and Ross (1958), Sommer (1965, 1969) and Sommer and Lott (1967) studied seating behavior in different communication events and made some interesting observations. For example, Sommer and Ross (1958) reported that as a result of the rearrangement of the furniture in a geriatric ward the frequency of conversation among the ward members doubled. Using a school cafeteria and library as the imagined environment, Sommer (1965) asked students to indicate preferred seating behavior in conversational, cooperation, co-action, and competition situations with a same gender friend.

Sommer's book Personal Space (1969) makes clear that seating arrangement greatly influences communication behavior among dyads and groups. For example, Sommer and Lott (1967) found that college seniors sat closer to their peers than they did to first-year students who were doing poorly in school. Seniors also sat closer to their peers than they did to their professors.

Some studies of proxemics have shown specific interest in the effect that personal space invasion has on human beings. Heston (1974) investigated space invasion on anxious and non-anxious subjects. Burgoon and Jones (1976) discussed a theory of personal space expectations and reported on the possible effects that personal space expectation violations could produce.

Burgoon, Stacks, and Woodall (1979) elaborated on problems encountered in the study of proxemics and offered valuable advice to other researchers. The discussion section of Burgoon, Stacks, and Woodall's (1979) article is of particular interest. It is there that future researchers were warned to carefully control for the attractiveness of the interviewers. It is reported that more attractive interviewers were consistently rated higher on assumed "character, sociability, composure, extrovertedness, social attraction and physical attraction" (1979:166).

Studying proxemic behavior in Costa Rica, Panama, and Colombia, Shuter (1976) observed dyads in public naturalistic settings. Observing dyads for 17-21 days in each country, Shuter concluded that females in all three countries interacted at a significantly closer distance when talking to another female than to a male. Moreover, females in all three countries conversed at a more direct angle to one another. Females also made more physical contact with another female than they did with a male. Cline and Puhl (1984) studied seating arrangement preferences in both Taiwan and the United States, concentrating on the gender of respondent, gender of interaction partner, and perceived context of the communication message. Results indicated that males and females preferred different seating patterns when interacting with males in task-oriented settings. Males and females preferred similar seating patterns for male-female social interactions.

Jones and Aiello (1979) called attention to the fact that several seating arrangement studies had used "projective" and "quasiprojective" methodology. These methods were more psychological than they were physical. An example of a projective method was one in which subjects were given pieces of paper with diagrams of tables and chairs on them. Specific types on interactions were described and subjects imagined where they would sit and where they preferred their imaginary partner to sit.

A quasiprojective method was one in which some type of evidence, for example, a sweater draped over an empty chair, books spread out in front of an empty chair, and so forth, indicated that a table was to be shared by someone else. Subjects were asked to comply with a task and choose where they would like to sit.

Jones and Aiello preferred the use of the "interactional" method which, they asserted, is the right way to study seating arrangement. The interactional method was one in which subjects took part in actual communication events.

Several studies were interested in the role that gender relationships played in seating arrangement. Researchers were curious to see whether same gender dyads used seating (and proxemics) differently to mixed gender dyads. Questions raised were whether there were observable and statistical difference between all female dyads and all male dyads.

Tannen explained that "we learn to use language as we grow up, and . . . even just being male or female . . . all result in different ways of talking, which I call conversational style" (1986:vi).

It is generally believed that males and females go through different gender socialization processes from the time of infancy. This may effect the way in which males and females communicate. In keeping with previous researchers who showed an interest in the relationship between seating arrangement and gender, the present study has treated these two independent variables as co-variables.

Rationale for the Present Study

Due to the heavy reliance on data gathered by projective and quasiprojective methods, there was little data on actual verbalizations when seating arrangement was manipulated. Even in the interactional method, where there was an interest in observing preferred seating arrangement when subjects had been set a task, researchers had not looked at the communication during the interactions.

As I have shown, many studies have looked at respondent preferences of seating arrangement and the degree of discomfort/reaction when personal space was invaded. In addition, the measurement of space between observed dyads was undertaken. A review of the literature on seating arrangement and gender revealed, however, that only a few studies used actual verbal communication content as a dependant variable. The vocalizations that accompany interactions have, in most cases, been given only fleeting attention, and in some cases communication variables were not mentioned at all.

Tannen cautioned that

> subtle differences in conversational style result in individually minor but cumulatively overwhelming misunderstandings and disappointments. As the novelist E. M. Forster put it in A Passage to India, "a pause in the wrong place, and intonation misunderstood, and a whole conversation went awry." . . . most of the talk we engage in during our lives is not public but private speaking: talk between two or among a few people . . . [it is] the invisible processes of conversational style that shape relationships . . . understanding [of] these processes restores a sense of control over our lives, making it possible to improve communication and relationships in all the settings in which people talk to each other: at work, in interviews, in public affairs, and most important of all, at home. (1986:vi)

Researchers in seating arrangement and proxemics have tended to neglect the whole body of literature that addresses variables of speaking style and verbal content that exists in the field of communication. For example, the literature displayed a paucity of reports and projections investigating the actual communication content when proxemics were being varied or manipulated. Researchers have, to a large extent, neglected to study the absolutely basic vocal behavior that has been taking place when proxemics have been varied. It was the aim of the present study to try to shed some light on this perceived "missing link," that is, the need to analyze the communication output, both verbal and nonverbal, when seating arrangement and gender have been varied.

Why is this missing link important and why should researchers pay particular attention to it? The following discussion will seek to justify the study of verbal and nonverbal communication variables as they relate to human communication in general and as they relate to seating arrangement and gender studies in particular.

The need to study communication messages in the context of proxemics and gender was clearly stated by Hall when he noted that "spatial changes give a tone to communication, accent it, and at times even override the spoken word. The flow and shift of distance between people as they interact with each other is part and parcel of the communication process" (1959:204).

Describing his personal experiences with a foreign diplomat, Hall said that at a close distance the diplomat's voice

> was eager, his manner intent, the set of his body communicated only interest and eagerness to talk . . . by experimenting I was able to observe that as I moved away slightly, there was an associated shift in the pattern of interaction. He had more trouble expressing himself. If I shifted to where I felt comfortable [about twenty-one inches], he looked puzzled and hurt . . . not only is a vocal message qualified by the handling of distance, but the substance of a conversation can often demand special handling of space. There are certain things which are difficult to talk about

> unless one is within the proper conversational zone. (1959:206)

Reinforcing Hall's observations, Sommer explained that

> there is a lack of explicit principles relating furniture arrangement to social intercourse. Sensitive individuals intuitively know that there is a connection, and people who want to converse will, consciously or unconsciously, occupy chairs with a suitable orientation and distance, but this is on a prescientific and nonverbal basis . . . a chair is taken for granted . . . rather than [viewed as] a necessary tool for social interaction. (1969:79)

To illustrate this idea, Sommer discussed his findings in classroom interactions. In a study of ten classroom situations, students seated in the center rows participated more than the students seated at the side rows of the classrooms. Participation was greatest in the front row as well as within the center section of each row. Sommer termed this as an expressive contact hypothesis that students in the center of a classroom are psychologically closer to their instructor than students at the sides (1969:118).

In addition to Hall and Sommer, the present study was guided by the work of Mahl (1987). Mahl manipulated the physical distance between therapists and their patients in order to study whether the use of different distances influenced interactions. Mahl, a psychologist, was additionally interested in whether changes in proxemics influenced the anxiety level of the patients in the study. Mahl measured the variable of anxiety by analyzing the verbal content of the interviews.

Using Hall's (1959) scheme for distance and quality of relationship in the American culture, patients were seated at experimental distances of 3, 6, and 9 feet from their therapists. The dependent variable used was the ratio of patients' speech disturbances in their interactions with their therapists. Results showed "a consistent linear increase" in speech disturbance ratios from 3 to 6 to 9 feet for the main body of the interview. A similar increase was observed in the summing up period in the 6 to 9 feet category (1987:113).

Mahl's discussion of the interrelationship between vocalizations and anxiety levels of speakers in communication events is offered as part of the rationale for this study.

Mahl (and the present study) was interested in how verbal behaviors could be analyzed as indications of different levels of anxiety in speakers. Mahl explained that

> preceding the onset of this [a speech measure of a person's concurrent anxiety] work, my research interests were mainly in psychophysiology. My concern had evolved from the experimental production of increased gastric (HCI) acid secretion in dogs, monkeys, and humans via the instigation of chronic anxiety in the laboratory to a desire to study variations in HCI secretions in humans during spontaneous occurring, "real-life" fluctuations in anxiety. (1987:157)

Mahl goes on to explain that "to achieve my research goal I needed a measure that would be unobtrusive to make and that would portray the immediate, fluctuating intensities in the patient's anxiety" (1987:158).

Mahl's subsequent review of the literature showed that only a few studies of therapy had tried to measure concurrent anxiety during interviews. With the increased sophistication

> and ease of using recording equipment, Mahl readily turned to the patient's recorded speech as a most promising medium. . . . The manifest verbal content, what is said, is an obvious part of the sound recording and is of special interest to most therapists. It is also of special interest to nearly all objective investigators of the therapeutic process. (1987:158)

Mahl regretted that

> as usually practiced, manifest content analysis of psychotherapy interviews disregarded the patient's "tone of voice." This is a flagrant violation of clinical experience. How the patient talked seemed to me to be a more dependable indication of his emotional states than what he said. Thus, I decided to develop a measure of anxiety and conflict based on how the patient talked. The question was: Which of the many aspects of "tone of voice" would be appropriate ones? Pitch, volume, rate, etc.? Unfortunately there was no body of research on which to base a choice. I chose to use the phenomenon of "flustered", "disrupted" speech for two reasons. First, I believed that everyday clinical experience taught us that this aspect of the patient's speech was a very sensitive indicator of his anxiety and conflict. Second, I held the theoretical view that one effect of anxiety was to disrupt all complex ongoing behavior. Speech is an instance par excellence of complex, skilled behavior consisting of its peculiar blend of the execution of integrated, intricate motor and cognitive processes. Over the years the extralinguistic status of this dimension of speech gained great appeal to me. By extralinguistic I mean that it is not part of the code, in contrast to certain other aspects of "tone of voice", such as some uses of pitch and volume . . . the phenomenon of "flustering" in speaking does not have any linguistic function. Because of its resulting freedom from restraint by the rules of language it is possible that this phenomenon is, along with other extralinguistic features, especially revealing of emotional status. It is also possible that its extralinguistic status renders "flustering" of speech less subject to

> voluntary (preconscious or conscious) control. (1987:160-161)

To further clarify his approach Mahl stated that everyone who listens long enough to spontaneous speech notices from time to time that the orderly process of verbal expression has been disrupted. The listener intermittently senses that the speaker has blocked or become flustered, that the speech has become garbled and confused. (1987:163)

Mahl explained that the vast majority of the speech disturbances occur outside the awareness of either speaker or the listener.

> Speech disturbances are extralinguistic phenomena. They are not part of the linguistic code; they have no semantic function. Moreover, they are not subject to tight restraint by the rules of the language. If they were they would not be so frequent and variable, and speech would rapidly become incomprehensible as their frequency increased. (1987:182)

Harper, Weins, and Matarazzo mirrored Mahl's reflections on vocal content stating that

> the bulk of research on paralanguage has consisted of attempts to identify personality correlates or to relate them to emotional or attitudinal states. Efforts to identify personality correlates have included ratings of these vocal characteristics in terms of inferred personality dimensions and comparisons between paralinguistic behavior of different personality types. (1978:viii)

They went on to explain that "disturbances of speech . . . (i.e., sentence correction, repetition, stutters, tongue slips, and the like) appear to be a reasonably sensitive indicator of anxiety" (1978:ix).

Knapp (1978) related the presence of hesitant speech to environmental considerations. He explained that

> sometimes we perceive our environment along a formal-informal continuum. Perceived formality may

> be based on any number of stimuli within the setting . . . I would hypothesize that as formality increases, we are more likely to find communication which has less breadth and depth. In addition, we are likely to see communication which is more stylized (the prescribed range of responses is narrower), less relaxed, more hesitant, and generally more difficult. (1978:72)

Changes in seating arrangement and in gender compositions may effect the perceived formal-informal continuum of a communicative event. Hall illustrated the relationship between distance and communication. At an intimate distance close phase (one and a half to two and a half feet), vocalizations played "a very minor part in the communication process, which is carried mainly by other channels. A whisper has the effect of expanding the distance. The vocalizations that do occur are largely involuntary" (1966:126). In the intimate far phase (two and a half to four feet) "the voice is used but is normally held at a very low level, or even a whisper" (1966:118).

In the personal distance far phase, "subjects of personal interest and involvement can be discussed . . . [and] the voice level is moderate" (1966:120). At social distance (four to seven feet), "voice level is normal for Americans . . . conversation can be overheard at a distance of up to twenty feet . . . during conversations of any significant length it is more important to maintain visual contact at this [social] distance than it is at closer distance" (1966:122). At the distant phase (seven to twelve feet) the voice level is noticeably louder than for the close phase, and it can usually be heard easily in an adjoining room if the door is open.

At public distance (twelve to twenty-five feet), the "voice is loud but not full-volume. Linguists have observed that a careful choice of words and phrasing of sentences as well as grammatical or syntactic shifts occur at this distance" (1966:123). At thirty or more feet (far phase), the subtle shades of meaning conveyed by the normal voice are lost. The voice needs to be amplified, tempo drops, and words are enunciated more clearly.

Knapp referred to the use of non-lexical vocal behavior as paralanguage. "Simply put, paralanguage deals with how something is said and not what is said. It deals with the range of nonverbal vocal cues surrounding common speech behavior" (1980:9).

Influenced by Mahl's belief that analysis should be "unobtrusive" to make and yet should portray the "immediate" and "fluctuating" intensities in a speaker's anxiety level (1987:158), the present study used, as the dependent variable, speaking style behaviors in speakers. These variables had to be easily observable by the researcher and they had to be of the type that were not voluntarily, consciously, or overtly controlled by the speaker. The following review of the literature on the speaking style variables chosen for this study is provided below. All the variables chosen were regarded as relevant to the study of the effect that seating arrangement and gender may have on speaking style.

Speaking Style Variables

Levels of anxiety were seen to influence verbal productivity. Hall investigated the variable of "total speech production" and thorough a review of the literature ascertained the varied ways in which different researchers had measured vocal productivity (1984:135). Harper, Weins, and Matarazzo noted that the most commonly used measures of verbal quantity included the time spent talking, number of words, number of interactions, number of clause units, and duration (total time talking divided by the number of interactions). They explained that verbal productivity was related to anxiety, but in a relatively complex and not fully understood fashion.

Recommendations were that researchers consider both the momentary situational and dispositional (or trait) anxiety or the speaker when investigating verbal productivity and study it in relationship to mood states such as depression. An inverted U relationship was hypothesized "whereby at low levels of stress verbal productivity will increase with stress, but as anxiety or stress increases, verbal productivity will diminish" (1978:53).

Mahl explained that a researcher's interest in the study of the verbal productivity variable

> was based on the assumption that most people have learned to talk less in speaking situations that

> make them anxious because cessation of talking is instrumental in terminating anxiety aroused by the content of what is being said, and it is also instrumental in terminating the anxiety-induced situation as rapidly as possible. (1987:225)

Mahl and Schulze believed that sentence lengths may vary considerably in speech.

> Verbal output, productivity . . . is a measure of the quantity of a subject's response in an open ended situation, where a subject is relatively free to determine how much he will produce to answer a question, comply with task instructions, or meet the implicit conditions of the interaction. (1964:51)

Murray (1971) stated that verbal productivity was most commonly measured by verbal quantity and speech rate. Wolf believed that

> the verbal productivity of an individual has been shown to be . . . a very sensitive aspect of linguistic behavior . . . there are large variations in over-all verbal productivity and these are a function of the amount of hesitation or pause that occurs in the utterance . . . verbal productivity and pause time were highly negatively correlated. (1987:123)

Since previous research had shown such a strong case for the relationship between the variable of verbal productivity in speech and the level of anxiety in a speaker, the present research used verbal productivity as a dependent variable.

The second variable chosen for the present study was the phonetic phrase with six or more words in it. In order understand the use of the phonetic phrase, one must first turn to the literature on pausing behavior. A phonetic phrase was defined a the speech that occurred between two pauses.

Mahl and Schulze suggested that (like verbal productivity) the amount of pausing behavior may be related to the concurrent anxiety experienced by the speaker. Pauses may be used as a defense mechanism in anxiety-provoking situations. Pausing behavior allowed an individual to inhibit verbal output, and better monitor and control verbal behavior. Wolf explained that "overall, pauses seem to clearly indicate inhibition on the part of the speaker . . . it seems likely, however, that the amount of such regulation may directly relate to the amount of potential anxiety the situation presents for the speaker" (1987:124).

Since pausing behavior was seen by researchers as an indication of a speaker's level of anxiety, and since pausing behavior resulted in phonetic phrases of varied lengths, the present study chose the phonetic phrase as a speaking style dependent variable. Relatively long phonetic phrases, six or more words, were considered to be non-anxious phonetic phrases.

A third variable chosen in the present study was the vocal segregate. Hall explained that a type of speech disturbance was

> the "ah" or filled pause, which is a disturbance in that it delays and disrupts the flow of speech, but which is not an error per se. Most writers consider the filled pause to indicate cognitive uncertainty and the desire to keep the floor while deciding what to say. (1984:130)

Hall believed that "ah" sounds were

> best thought of as a cognitive holding pattern. Though debatably a disturbance in the sense of reflecting emotional discomfort, it nevertheless signals hesitancy and does intrude, sometimes irritatingly to a listener, into the flow of speech . . . the filled pause seems more likely to be a device employed by more mature males to give themselves time to consider their next words, either as a way to help avoid making speech errors or as a way to avoid yielding the floor prematurely, or both. (1984:132)

Knapp stated that

> a filled pause is simply filled with some type of phonation such as "um," "uh" . . . a variety of sources associate filled pauses with a range of generally undesirable characteristics. Some people associate filled pauses . . . with emotional arousal and others feel that filled paused may reduce anxiety, but jam cognitive processes. (1978:222)

Knapp's (1980) believed that intruding sounds and speech error should be studied (in seating arrangement and spatial arrangements) as they related to leadership, communication flow, and task performance. Lalljee (1971) found that the use of too many filled pauses by a speaker resulted in listeners thinking that the speaker was anxious or bored. Mahl and Schulze observed that an insecure person may speak with frequent nervous mannerisms (1964:51).

Schegloff (1982) called the form of vocalizations such as "uh huh" and "mm mm" a class of behavior necessary in the achievement of discourse. Schegloff complained that former researchers had considered these conversational "detritus . . . apparently lacking semantic content, and seemingly not contributing to the substance of what the discourse ends up having said" (1982:74). Trager (1958) used the term vocal segregates to label vocal behaviors such a "uh-huh," "um," "ah," "uh" and their variants.

Wolf "serendipitously found that in the telephone-type situation . . . subjects said "ah" much more frequently than in the face-to-face situation" (1987:120).

As can be seen, some researchers believed that the use of vocal segregates by speakers were an indication of speaker anxiety. Others believed that the use of vocal segregates was the result of cognitive processes and an demonstration that a speaker wanted to keep the floor. The researcher believed that vocal segregates may indeed be a demonstration of anxiety on the part of the speaker. Based on this belief, vocal segregates were used as a dependent variable in the present study.

A fourth variable chosen was repetitions. Hall explained that speech errors were "defined as repetitions . . . [and reflected] emotional uncertainty or anxiety which is the chief interpretation of the behaviors defined as errors" (1984:130).

Knapp stated that

> a filled pause is simply filled with some type of phonation such . . . repetitions . . . A variety of sources associate filled pauses with a range of generally undesirable characteristics. Some people associate . . . repetitions with emotional arousal and others feel that filled paused may reduce anxiety, but jam cognitive processes. (1978:222)

Lakoff highlighted non-fluencies in speech such as repetitions and vocalized pauses.

> These tend to be more or less involuntary. Indeed, encountering oneself on tape using them to excess frequently causes chagrin: "Do I talk like that?" They do not, typically make emotional directness, but rather simple unpreparedness--the negative side of spontaneity. For while in writing we can marshal our thoughts and present them in coherent and rhetorically effective order, in speech we seldom have the opportunity, and at least currently, if we do, we try to look as if we are not making use of it. It is conventional--and, probably, realistic--to assume that the more emotionally involved one is, the more one's thoughts are confused, or at least presented linguistically in incoherent and rambling form. Therefore, the use of these devices, primarily resulting from the normal inability in spontaneous discourse to know in advance what to say, secondarily can signify emotional turmoil in oral communication, at least if carried to excess, or used in unusual places in the conversation. (1982:249-250)

Mahl (1987) considered repetitions to be other form of "flustered speech" and defined them as the serial, superfluous repetition of one or more words. The researcher believed that the study of repetitions in speech may give some clues about the emotional state of a speaker, repetitions were used as an independent variable in the present study.

The fifth variable chosen in the present study was the vocal clarification, the use of "you know" in speech. Duncan (1972, 1974) termed the use of "you know" as a stereotyped "sociocentric" statement. More recently Hosman (1989) called them "meaningless" particles that were indicative of a form of "powerless speech." Young (1988) in the chapter "Projection and Deixis in Narrative Discourse" referred to the use of "you know" as a "formulaic device" used in narrative discourse. Chaffe believed that the use of colloquial expressions like "you know" was one of the methods used by speakers to help the "monitoring of information flow" (1982:47). This involvement included monitoring (by the speaker) of the communication channel (which existed with the listener). The use of vocal clarifications also made sure that the channel was functioning well and reassured the speaker that the listener had assimilated speaker provided information. Chafe also believed that vocal clarifications "prodded" the listener into noting and acknowledging the flow of information. Mahl viewed the use of "you know" as "the characteristic use of intruding idiosyncratic expressions" (1987:168).

Since the use of vocal clarifications may have indicated a speaker's need to check the channel of communication and since the frequent usage of vocal clarifications may be related to anxiety on the part of the speaker (as to whether the listener had received the message), the present research used vocal clarifications as an independent variable of speaking style.

The sixth variable studied in the present research was self-reference. Chafe discussed involvement on the part of a speaker in terms of the "first person references" present in the speech. "A speaker's involvement with his or her audience is manifest, for one thing, in a speaker's more frequent reference to him or herself" (1982:46). These included references similar to the use of I, we, me, and us. Implicit in this statement was the belief that when speakers were comfortable in a communication event, they were likely to talk about themselves.

The variable of self-reference was additionally influenced by the literature on self-disclosure in communication. Hansen and Schuldt (1982) investigated the degree of self-disclosure used by male and female undergraduate when distance was manipulated. Speakers interacted with male and female graduate students at distances of 3 feet and 6 feet. Subjects (at the distance of 6 feet) talked more in response to self-disclosure questions when the interviewer was male.

Knapp and Miller explained that "a number of researchers have considered the meaning and interpretation of intimate self-disclosure and indicate [that] its appropriateness is determined by how it fits into an ongoing sequence of events" (1985:72). Harper, Weins, and Matarazzo (1978) urged researchers to study self-disclosure in psychotherapeutic settings.

Self-reference was regarded as a critical vocal behavior by the researcher to study the effect of seating arrangement and gender on speaking style. The use of self-references would reflect whether speakers felt comfortable enough to talk about themselves in different seating arrangements and gender dyadic compositions.

The seventh variable combined the variables of vocal segregates and vocal clarifications. This _vocal segregate and vocal clarification combined_ variable was chosen as another way in which to study filled pauses. "You know" can often be used as a filled pause, and the researcher decided to study the two variables together. The use of vocal filled pauses may be influenced by seating arrangement and gender composition of a dyad.

Narrative Communication

A common form of social interaction was the sharing of narratives among people who know each other. Three researchers who had a particular interest in narrative discourse were Tannen (1982), Labov (1972a, 1972b) and Linde and Labov (1975). Tannen proposed that narrative discourse was so different from other types of discourse that it could well constitute its own distinct genre. Tannen analyzed the narratives told by friends. Data were gathered from two and a half hours of naturally occurring conversation during a Thanksgiving dinner. The participants were Americans of different ethnic and geographical backgrounds. Tannen described the narrative style of one of the participants.

> Kurt's telling of this story is marked by exaggerated paralinguistic and prosodic features. He uses marked shifts from high to low pitch; speeding up and slowing down; postural and gestural cues . . . he mimics the movements as well as the voice of the girl he is talking about; he places his

> hands on his knees and squirms in a stereotypically female manner. (1982:11)

Tannen (1982) noted that

> for the New Yorkers of Jewish background, stories were most commonly told to illustrate the speaker's feelings about something . . . the non-New Yorkers, in contrast, told stories about events in which their feelings were not only not dramatized but often not expressed. (1982:12)

Labov's (1972b) work in the inner city of New York showed that narrative style was markedly different from other types of conversation. Labov went so far as to say that "narrative as a whole contrasts sharply with ordinary conversation" (1972b:377). Further research into the area of narrative communication led Linde and Labov (1975) to argue that narratives were a basic discourse form and that, in fact, other discourse organizations were derived from the narrative form. Labov (1972a) said that narratives were a particular form of the transformation of reality for the narrator and that narrative accounts were framed accounts of one's life experiences. Schegloff explained that

> the actual enactment of the discourse--for example, its telling--often seems to be treated as the behavioral realization of a preplanned cognitive unit. The prototype discourse for such an approach is the narrative or lecture, which readily lends itself to treatment as the product of a single speaker, whose cognitive apparatus underlies and shapes it. (1982:71)

A review of the literature written on "response matching" found in conversational interaction is shared below. The main purpose of its inclusion was to elaborate upon the decision to collect (and subsequently analyze) narrative data between dyads of varied gender and seating arrangement. This literature review will illustrate that narrative communication was the most valid form of communication to use in a study whose goal was to learn about the possible effect that seating arrangement and gender had on speaking style.

The overriding rationale to gather narrative discourse was the possible "response matching" (found in conversational interactions) that may contaminate data. There is undoubtedly a preponderance toward response regularities in vocal and nonverbal behavior. Miller (1964) looked at this behavior as a sort of norm of synchrony and used the term "response matching" to describe these communication episodes.

Chapple (1953) found that when interviewers engaged in long pauses and simultaneous speech during the course of a conversation, interviewees tended to do the same. Similar results were reported by Argyle and Kendon (1967) and by Matarazzo, Wiens, Matarazzo and Saslow (1968).

Lennard and Bernstein (1960) studied tapes made of patient-therapist interactions in psychotherapeutic situations and noticed that utterances of both the patient and the therapist became highly correlated. Patients and therapists attempted to match each other's vocal patterns. A correlation was found by Matarazzo (1965) who studied the tapes of patients with their therapists. Matarazzo's patients tended to match the length of their utterances to that of their therapists. Positive correlations were found in both their conversational and turn-taking behavior.

The present study also kept as a warning Byrne's (1971) review of the literature which clearly showed several examples of positive correlation between similarity and attraction and Bandura's (1962) review of the literature highlighting a tendency for one to imitate the behavior of an attractive or high-status other.

In two studies of kinesic nonverbal behavior, one done by Rosenfeld (1967) and the other done by Scheflen (1973), smiling behavior and head nodding, body posture and positions were imitated by partners in a discussion. Condon and Ogston (1966), who observed children, believed that a child switches nonverbal behavior and adopted nonverbal synchronization as the child switches allegiances from one parent to another through a family and gender role socialization process.

Since matched pausing, matched simultaneous speech, matched lengths of utterance, matched turn-taking behavior, or any type of matched behavior would undoubtedly have contaminated the present study, the preference to gather narrative communication data over conversational communication data was clear. Conversational data could have been contaminated by the effect an interviewer or an interviewee may have had on the interaction. It is for this reason that interviewer involvement was kept minimal and consistent and the gathering of narrative discourse seemed most appropriate and suitable.

Related Literature on Speaking Style

Academic interest in speaking style can be traced to its origin in an early interest in speech chronography. Two Bell Telephone System researchers, Norwine and Murphy (1938), pioneered a study of conversational and characteristic time patterns and internal silence patterns from assorted telephone interactions. The very next year, anthropologist Chapple (1939, 1940) recorded and chronologically measured non-telephonic structured interview situations. Chapple was concerned with facilitating the ability of clearly identifying speech units and measuring their temporal patterns. Speech chronography, silences, and kinesic behavior were studied in combination to each other. Chapple's work had repercussions in the field of psychology. Matarazzo, Saslow and Hare (1958) attempted to study the psychological state of interviewees from temporal data of speech and silence collected on them. Matarazzo and Weins (1972) defined two pertinent areas. They were 1) an utterance and 2) an initiative time latency. "An utterance (or speech unit) is recorded as the total duration of time it takes a speaker to emit all the words he/she is contributing in that particular unit of exchange (as this would be judged by common social standards)" (1972:6). An initiative time latency "is the silence that occurs between two consecutive utterances of the same speaker" (Feldstein and Welkowitz, 1978:332).

Goldman-Eisler (1968, 1954), a British psychologist working in the field of mental care, temporally measured the speech occurring between normal adults and female neurotics. Goldman-Eisler isolated a specific variable which was regarded as the most interesting and discriminating one namely the speed of talking. Speed of talking was measured by the number of syllables per minute (1954:95) and its relation to the lengths of utterances in conversations. A few years later Jaffe (1961) measured the number of words uttered per minute. Goldman-Eisler defined speech utterance/speech action as "a period of speech between the last word of the interlocutor's preceding utterance and the first word of his following one" (1954:95).

Pittenger, Hockett, and Danehy (1960) conducted a classically detailed and microscopic analysis of the first five minutes in a psychiatric interview. Mahl and Schulze (1964) put the concept of verbal productivity into their study of voice dynamics. Mehrabian (1970, 1971) and Mehrabian and Ksionzky (1970) counted the total frequency and duration of several speech behaviors. Looking at speech behaviors Mehrabian and Ksionzky discussed the relationship within the dyad under study.

Interest in the study of telephone conversations was renewed by Brady (1968, 1969), another Bell Telephone researcher who studied the "on-off" speech patterns in telephone conversations.

Cassotta, Feldstein, and Jaffe (1964) used audiotaped conversations to identify a sequence of sounds and silences. They defined several terms:

1) A vocalization "is a continuous (i.e., uninterrupted) segment of speech (sound) uttered by the person who has the floor" (1964:100).

2) A pause "is an interval of joint silence bounded by the vocalizations of the person who had the floor and is, therefore (as are the vocalizations) credited to him" (1964:100).

Feldstein and Welkowitz (1978) strongly stressed that "one of the basic dimensions of conversational interaction . . . is the temporal organization of its sounds and silences" (1978:329). Mahl and Schulze (1964:52) termed this area extra-linguistic. Markel (1975) defined "coverbal" communication as the behavior of interlocutors which occurs in association with or accompanying words, but which is not essential "for the articulation or grammatical functioning of those words" (1975:189). For the rest of the present study the term coverbal behavior will be used.

Markel (1975) and Markel, Bein, Campbell and Shaw (1976) stressed that coverbal behavior in a study should be important to the conversation, should be easily observable by an interactant and should be recognizable from the analysis of tape recorded or video recorded interactions.

Feldstein and Welkowitz (1978) explained that "the working expectations that underlie much of the research in conversational chronography have to do with the possibilities that the pacing of a conversational exchange . . . modifies (along with other coverbal behavior) the lexical message embedded in it" (1978:330). Feldstein and Melkowitz propose that the pacing of speech is not ordinarily under deliberate control in a communication event.

Sociolinguists Sacks, Schegloff, and Jefferson (1974) elaborated on a "speech exchange system." In this system, a conversation is analyzed from a temporal, sociological and ethical angle. Attention was paid to the rights and the needs of speakers and conversations were viewed as social exchange and obligations. Sacks, Schegloff, and Jefferson defined a turn and a lapse as follows:

1) A turn is not only the temporal duration of an utterance, but also the right, and the obligation to speak when one is allocated a particular speaker. The turn should be valued and sought. A turn may consist of single words, phrases, clauses, or sentences.

2) A lapse occurs when a potential speaker chooses not to speak, or a current speaker does not elect to continue an

utterance. Thus a discontinuity in conversational flow occurs.

Lomax (1968, 1975), an anthropologist, collected folk literature and songs. In the process of this task, Lomax, Berkowitz, Deng, Kulig, and Markel (1977) came to believe that a stylistic analysis of communication takes into account the dynamic continuities of communication behavior. Stylistic analysis is concerned with how (the manner in which) people talk and sing and do things in relationship to one another. It is not predominantly concerned with contextual issues, the what (the content matter of the communication message) it is that they say or sing or do with each other (1977:15).

Scollon and Scollon (1981) examined communication patterns of the Athabascan Indians and were intrigued by how Athabascan communication patterns were being interpreted by the non-Athabascans, strongly supporting Trudgill's (1983) belief that sociolinguistics is that part of linguistics concerned with language as a social and cultural phenomenon.

Research into gender differences in communication has existed in various fields. Gallois (1976) explained that behavior in face-to-face interaction is governed by roles and norms which influence and reflect the relationship between interacting individuals. This leads to the effect of different role structures on communication. Deutsch (1949) linked the lengths of communicator's utterances to gender competitiveness among communicating partners. Argyle, Lalljee, and Cook (1968), working with dyads who were unable to see each other and thus could not rely on kinesic visual cues, found that males tended to dominate these interactions. When dyads could see each other, females depended on visual cues to give them permission to interrupt a speaker or to continue speaking. Male communicators vocalized until they received visual signals that the other partner wanted to speak.

In a similar vein, Hayes (1957) and Meltzer, Morris, and Hayes (1971) concluded that amount of speech produced exhibited a direct and positive relationship to dominance in communicating partners. Markel, Long, and Saine (1976) assessed the independent and interactive effects of communicator sex, listener sex, and interpersonal distance on temporal measures of conversational interaction. Results demonstrated that the average duration of speech acts was significantly longer for females than for males. Communicators, regardless of sex, spoke for a greater proportion of the total conversation time when the listener was female. Within all male dyads, the greater the manipulation of interpersonal distance between the communicating partners, the higher were the incidents of simultaneous speech as contrasted to when the partners were proxemically closer together.

Through a discussion of previous work done in the areas of coverbal communication, content analysis, narrative communication, seating arrangement and gender studies, one cannot fail to notice how interrelated all the variables are. The present study sought to examine the relationship between these variables, and to find answers to the overriding question "How does manipulation of seating arrangement and gender in dyads influence speaking style?"

The methodology used to answer this question is described in the next chapter.

CHAPTER 2
METHODOLOGY

Methodology of the Pilot Study

The methodology incorporated both the "environmental" and the "interactant" independent variables described by Watson (1972). An environmental independent variable for the study was the seating arrangement in a university room which was manipulated, and an interactant independent variable was the gender of the narrators and the gender of the listener which was also manipulated.

Variables of Speaking Style

Seven variables of speaking style were the independent variables for this study.

1) Verbal productivity (vp) was how long (total number of seconds) each person spoke for. The chronological length from start of each narrative to the end of each narrative was measured by a stop watch.

2) A phonetic phrases (PP) with six or more words in it. A phonetic phrase was the speech that occurred between two discernible pauses. A pause was a period of complete silence, which were was bound by vocalization on the part of the speaker. The end of each pause marked the beginning of a new phonetic phrase.

Example:

PP1 "I was really in a fabulous mood (pause)

PP2 "just about any play we did was sure to be fun (pause)"

Thus, "I was really in a fabulous mood" was one phonetic phrase "just about anything we did was sure to be fun" was a second phonetic phrase. For example, in PP1, the word count was 7 and the word count in PP2 was 11. PPs that had six or more words in them were grouped together for the study.

3) Vocal segregates (vs) were any filled pauses, unfinished words, or non-meaningful sounds that occurred within the phonetic phrase or that constituted an independent phonetic phrase. "Uh," "da," and "ar" are sample vocal segregates.

Each phonetic phrase was examined to determine if a vocal segregate (vs) was embedded in it. Sometimes a PP contained only a vocal segregate. Anytime a PP had a vs, it was counted as one. If two vss occurred in one PP, the PP was still counted only once. If there were three vss in one PP that PP was still counted only once.

Example:

PP1 "came up to ah me"

4) Self-references (sr) were counted when a speaker referred to self in a phonetic phrase. Anytime a narrator used

a personal reference, for example, I, me ,mine, us, our, and we, that PP was counted only once.

Example:

PP1 "So we could see the movie at the Plaza" is a self-reference.

5) Repetitions (r) in a phonetic phrase were when two identical words, or two identical phrases were uttered one after the other in the same phonetic phrase or a second phonetic phrase. Repetitions of words or phrases occurring alongside one another were noted. If a repetition occurred in a phonetic phrase, the phonetic phrase was counted once. If a repetition occurred over two phonetic phrases, the phrase was still counted once.

Example:

PP1 "I did not know know how to react" was one repetition. PP5 "So the people said" PP6 "said she had been wrong" was one repetition.

6) Vocal clarifications (vc) were anytime that a speaker sought to clarify a narrative with the words "you know" in a PP. Instances when the narrators directly used the words "you know" to seek clarification on the part of the listener were isolated. The number of phonetic phrases that this occurred in was noted. Thus when a PP had "you know" in it that PP was counted once.

Example:

PP1 "I could see you know how it was done."

PP1 was counted once.

7) Vocal segregates and vocal clarification combined (vs+vc) were the total count of all occurrences of vss and vcs in a speaker's phonetic phrases.

Questions to be Answered

The following seven research questions were addressed:

1) Did seating arrangement and gender have a significant influence on vocal clarifications in narrative communication?

2) Did seating arrangement and gender have a significant influence on repetitions in narrative communication?

3) Did seating arrangement and gender have a significant influence on vocal segregates in narrative communication?

4) Did seating arrangement and gender have a significant influence on the amount of self-reference in narrative communication?

5) Did seating arrangement and gender have a significant influence on the amount of 6+ phonetic phrases in narrative communication?

6) Did seating arrangement and gender have a significant influence on verbal productivity in narrative communication?

7) Did seating arrangement and gender have a significant influence on vocal segregates and vocal clarifications combined in narrative communication?

The Narrators

Narrators were six female and six male students at the University of Florida. Narrators were within the 18-32 age group. All were native speakers of English and were personally known to the listener who was a 32-year-old Indian female graduate student in communication studies. None of the narrators were paid.

The Instrumentation

A standard tape recorder with an internal microphone was used. An extension wire (to reach both types of seating arrangement) was used. All recordings used the internal microphone volume tone settings. The tape recorder was placed between the speaker and the narrator, twelve inches in front of the narrator. The tape recorder was placed on a thick book to absorb natural vibrations.

The Listener

Heeding Burgoon, Stacks, and Woodall's (1979) warning for future researchers to control for the attractiveness of the interviewer, the researcher decided, in the pilot study to have only one listener in all twelve narratives so that the listener's attractiveness did not become a confounding variable. The researcher played the role of the listener in all twelve situation. The researcher dressed and acted in a similar manner. The listener was careful not to invade personal space. Since all narrators were personal friends of the listener, a friendly manner was consistently used. The female knew each of the narrators and lived with them in an off-campus housing cooperative. The listener was a bi-lingual (English-Hindi) graduate student.

The Test Environment

Following research in sociolinguistics done by William Labov (1972a, 1972b) and Gumperz (1977a, 1977b), and Gumperz and Roberts (1978), the test environment was made as natural as possible. The study took place in a collegiate environment so an office room on campus was used. A "Do not disturb, tape recording in process" sign was placed on the door so that the experiment was not disrupted by outside influences. The desk top was kept relatively clear, following a former recording (not used in the present study) of two speakers who got distracted by a colorful race car magazine and proceeded to talk about the contents of the magazine while flipping through the pages. A tape recorder was placed on the desk in clear view of the narrator.

Experimental Protocol

The same experimental protocol was followed for every narrator. The listener greeted each narrator in a friendly tone and showed the narrator, in a non-obtrusive manner, where the narrator was to sit. This was done rather easily by prearranging the chairs in the appropriate manner before each narrator entered the room. The chairs used were comfortable, padded armchairs. The seating arrangements used were based on Sommer's (1965) research into seating preferences and on the researcher's observations of popular seating arrangements in a university library and a university health center. Two seating situations were manipulated, namely the narrator sitting opposite the listener without a table between them, and the narrator and the listener sitting opposite each other with a table between them. (See Figure 2-1 and Figure 2-2.) The table was 79 inches long and 37 inches wide. The tape recorder was in clear view of the narrator. In keeping with Cherry's (1961) belief that face-to-face communication involving two people should be considered the most common form of human interaction, the listener and the narrators were always seated facing each other at a distance of 40 inches.

Four dyadic situations were created. They were

1) three female-narrating-to-female dyads seated side by side (fs);
2) three female-narrating-to-female dyads seated opposite each other (fo);
3) three male-narrating-to-female dyads seated side by side (ms);
4) three male-narrating-to-female dyads seated opposite each other (mo).

A tape recorder was placed on the table. A thick book was placed under the tape recorder to reduce natural vibrations that may have occurred. The listener had these instructions in hand and read extemporaneously from them.

Listener said: I am a graduate student in Communication Studies and I am interested in how people communicate with each other. I am going to ask you a few question and ask you to describe a particular event for me. It is important that you feel relaxed and natural. Please feel free to ask me questions before we start the study. I will start by asking you a few personal questions and then I will ask you to describe a longer situation for me. Please take as long as you need to discuss this situation. No part of this study should be difficult for you to discuss. Your answers will be totally confidential, and I can erase any part of the tape that you would not like to leave this room. Before I start the group of personal questions, do you have any questions to ask me?

Listener did: Wait for verbal or nonverbal reply.

Listener said: Once again, let me remind you to answer the questions as fully as possible and to take as long as you need. We are in no rush.

Listener did: Turned the tape recorder on. The following material was recorded on the tape.The listener asked the following questions one by one and waited for a full answer to each question before moving on to the next.

Listener said: 1. (Name of speaker), how have you been today?

2. How do you feel about your classes this semester?

3. Are you planning to be here for the (next) term?

4. Do you have, or plan to have a part time job for the (next) term?

5. Could you tell me about your first year in college, what was it like etc.?

Listener said: We are now finished with the first section and are ready to move on to the second and final part of this study. I now have a longer situation that I would like you to describe. Please take as much time as you need to describe this experience. I encourage you to describe it as fully as you possibly can. Remember, you may take as long as you feel necessary. Are you ready? O.K., let us continue.

6. What I would like you to describe for me is an interesting experience. For example, it could be something interesting that happened to you, to one of your friends, or to a family member. It could be an interesting T.V. show that you saw, a story that you read, an event that you heard about, or an interesting movie that you have seen. Take as long as you need to describe this event. You may start whenever you are ready.

Listener did: Repeated the instructions when requested to do so. Then listened to the narrative without overtly interrupting the narrator, showing appropriate and conversational nonverbal interest in the narrative. At the obvious end of the narrative, the listener turned the tape recorder off.

Listener said: Thank you very much for telling me that story and for being part of my research study. I really do appreciate your help.

Method of Identifying Narrative Data

Only the narrative discourse following "what I would like you to describe for me is an interesting experience. For example, it could be something interesting that happened to you, to one of your friends, or to a family member. It could be an interesting T.V. show that you saw, a story that you read, an event that you heard about, or an interesting movie that you have seen" was transcribed. If this answer was unusually short (less than fifty phonetic phrases), the narrative was not used. The other short questions were regarded as "warm up" situations to make the speakers comfortable.

Each narrative was measured from start to finish and a mid-point found. A pause was identified at the mid-point. Twenty five pauses preceding the mid-point pause and 25 pauses following the mid-point pause were identified. These represented fifty PPs. Markel (in press) explained that the reliability of coding pauses was determined by the percentage of agreement index. The number of agreements were the total number of occurrences where both coders indicated that there was a pause at exactly the same spot on the transcript. The number of disagreements were the total number of occurrences where one coder indicated a pause and the other did not. Markel's intercoder reliability check indicated the average percentage agreement was .83. The average percentage agreement for the present study was .80.

Each time a pause occurred, a new phonetic phrase was started. Thus the fifty pauses at the mid-point of each narrative identified the fifty phonetic phrases (PPs) from the middle of each narrative.

A thorough transcript for each of the fifty PPs was made. In the case of difficult to understand phonetic phrases, the assistance of another coder was sought and agreement was reached. In extreme cases, when both coders could not understand a particular word used, the word was marked by a blank space bounded by parenthesis (---------) in the transcript. Vocal segregates (vs) were coded into the transcripts.

The number of words in each PP was manually counted. An intercoder reliability check of this methodology done by Nimocks (1986) using number of words in a 100 word segment indicated a hundred percent agreement rate. The present study used Nimocks' system, which had been adapted from a previous word count systems done by Gott, Winget, and Glaser (1965). Nimocks defined a word as:

a) any groups of sounds or letters having spaces on each side;

b) contractions and hyphenated words are one word;

c) numbers or acronyms used as a single unit, for example, "nineteen-eighty-six," "1986," "ten thousand," "10,000," "U.F.," and similar items;

d) all names of a person's name as one word, for example, "Frank Nimocks," "Cordelia Ann Jones," and similar items, but count titles as separate words, for example, "Dr. Wallace" (two words), "Dr. Bill Wallace" (two words), "Bill Wallace" (one word);

e) names of places, such as "South Africa," "Canary Islands" as one word, but count towns, states, countries as separate words, for example, "Hattiesburg, Mississippi" (two words), "Paris, France" (two words), "Niagara Falls" (one word), "St. Simon's Island, Georgia" (two words);

f) names of businesses, organizations, books, people or objects, which are most often expressed together are considered one word, for example, "House of Representatives," "J. C. Penney Co.," "National Rifle Association," "Nobel Peace Prize," "Encyclopedia Britannica," "Peter the Great," "Lawrence of Arabia," and similar items (1986:234-235).

When each transcript was counted, the number of words in each PP was grouped into two categories. The first was a phonetic phrase that had zero words to five words in it. A zero word phrase is a phonetic phrase that contained only a vocal segregate. For example a person may only utter "Uh" in a phonetic phrase. This was put into the zero to five category. The second category was for PPs that contained six words or more in it, i.e. 6+ words in a phonetic phrase. This procedure was followed for each transcript.

The results of each transcript were then grouped according to two systems, a) the gender of the narrator and b) whether the narrator was sitting opposite the table from the listener or on the same side of the table as the listener.

Changes Made Between the Pilot Study and the Main Study

After the pilot study, several methodological changes were suggested and were made. The forensic room of the Department of Speech was used in the main study. This rectangular room had a large window, one door and a rectangular library-type study table. The table measured 90 inches by 40 inches. The room had a collegiate and casual atmosphere with debate and speech trophies arranged on shelves and on the walls. It was speculated that the padded armchairs used in the pilot study may have been too comfortable and relaxing, not typical of chairs used in university interactions, so the chairs in the main study were standard armless office chairs. The back rest of the narrator's chair was close to a wall in the side-by-side pilot study. Since that may have influenced the perceived comfort of the narrator (possibly making the narrator feel more "trapped"), the main study was designed so that the narrator's chair back was always far away from the wall. A majority of the research on seating arrangement is of a projective and quasiprojective nature, which involves the imagination of a subject to study seating arrangement. These studies do not discuss the body orientation of the interactants. In keeping with this literature in the side-by-side situation the listener and the narrator were seated facing the table. It should be specially noted that most of the literature in the projective methodology implicitly suggested that interactants in the side-by-side situation faced the table.

Since there was a possibility that the listener may have inadvertently influenced the outcome of the narratives (the listener knew the speaking style variables that were to be analyzed), the main study trained four independent listeners. These listeners did not know that variables of speaking style were being studied.

Four dyadic situations were created. They were

1) twelve female-narrating-to-female dyads seated side by side (fs);

2) twelve female-narrating-to-female dyads seated opposite each other (fo);

3) twelve male-narrating-to-female dyads seated side by side (ms);

4) twelve male-narrating-to-female dyads seated opposite each other (mo)

Narrators were twenty four females and twenty four males (Appendix D). Except for two females and one male, all narrators were students at the University of Florida. Narrators were within the 18-36 age group. All narrators were native speakers of English and were friends of the listener.

The listeners were told not to use "intimate" others and to only choose friends that they would consider equally close in friendship to them. All the narrators were volunteers and none were paid. None of the narrators from the pilot study were in the main study.

Four listeners were trained (see Appendix A: training instructions). Three listeners were undergraduate students in political science, psychology, and art at the University of Florida and one was a graduate student in agricultural economics at the same university. Two of the listeners were mono-lingual and two of the listeners were bi-lingual (English-French, English-Thai). Two of the listeners lived at an off-campus housing co-operative and most of their narrators lived in the same housing co-operative. Listeners knew that seating arrangement would be manipulated but were not told that gender of the narrator was an independent variable. None of the listeners were paid.

A "Do not disturb, conversation project in session" sign was placed on the door of the room so that the experiment was not disrupted by outside influences. The table top was kept clear. The tape recorder was in clear view of the narrator. Narrator and listener sat 40 inches apart in the side by side condition, and 40 inches apart in the opposite each other condition. (See Figure 2-3 and Figure 2-4.)

Both distances fall into Hall's (1966:120) "Personal distance--far phase" at which "subject of personal interest and involvement can be discussed at this distance." Angle of body orientation was 180 degrees in the opposite each other condition and 90 degrees in the side by side condition. This is to say that narrator and listener were facing each other with the table between them in the opposite each other condition and were both facing the table in the side by side condition.

Narrators always sat in the same chair which was placed 25 inches from the edge of the table. The listener also sat 25 inches from the edge of the table. The chairs used were standard armless steel office chairs. Pieces of masking tape helped listeners to know where to sit and for the researcher to know where to place the tape recorder. The tape recorder was in the same position for all narratives. Since narrators were always asked to sit in front of the tape recorder, they were always in the position required for the study. In keeping with Sommer's diagrams (1969), six chairs were placed around the table. One on each end and four in the middle.

Each narrator was greeted by the same researcher and asked to wait in the waiting room. An assortment of magazines were left in the waiting room. Each narrator was greeted in a friendly tone. The researcher then told the listener that their narrator had arrived, checked with the listener that they were ready for the experiment and accompanied the narrator from the waiting room into the experiment room. The researcher showed the narrator where to sit, in a non-obtrusive manner. This was done rather easily as the tape recorder was pre-arranged in front of the chair that the narrator was to occupy and by the researcher saying "Why don't you sit next to (or opposite) _________ (name of listener), in front of the tape recorder." The listener and the researcher had their instructions in hand and read extemporaneously from them.

Researcher said: Thanks for coming to this meeting. Before we begin the study, I am going to say a few words into the tape recorder and then leave the room. When I leave the room (name of listener) will give you further instructions. (Name of listener), please call me when you have finished your conversations.

The researcher turned the tape recorder on and checked to make sure that it was recording. The researcher said the following into the tape recorder:

1. Today is (date).
2. The experimenter is (name of listener and narrator number, example, Kim5).

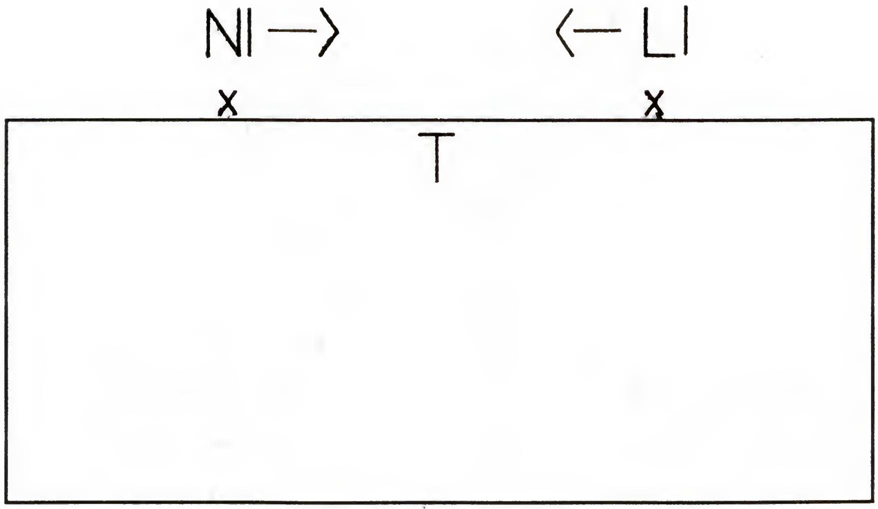
Okay, call me when you are done.

When the researcher left the room the listener took over. They kept their instructions with them (see Appendix A), and followed the instructions carefully yet maintained a conversational manner. Listeners were asked to act naturally when listening to each answer and to try to forget, as far as possible, that they were in a research environment.

Data Gathered

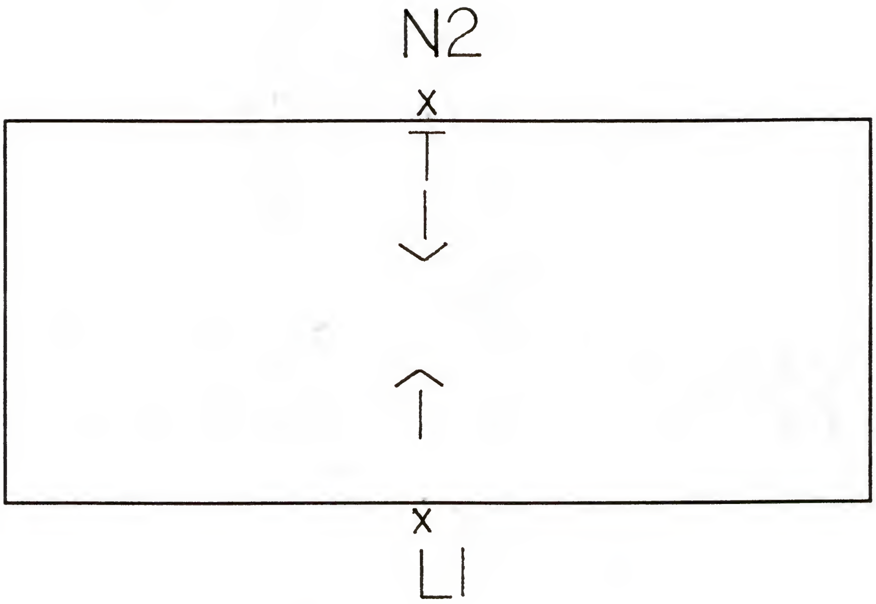
Three narratives from three males sitting side by side with their female listener friend were rejected because they did not contain the minimum of fifty phonetic phrases in them. Since these tapes could not be used, three alternate narrators were invited to be part of the study and their narratives were analyzed. In total fifty one narratives were tape recorded and three were rejected. The data from the remaining forty eight of these narrative tape recordings were analyzed and used in this study. Listener #1 listened to six males and six females, Listener #2 listened to six males and six females, Listener #3 listened to six males and nine females, and listener #4 listened to six males and three females.

The results of this methodology are discussed in the next chapter.



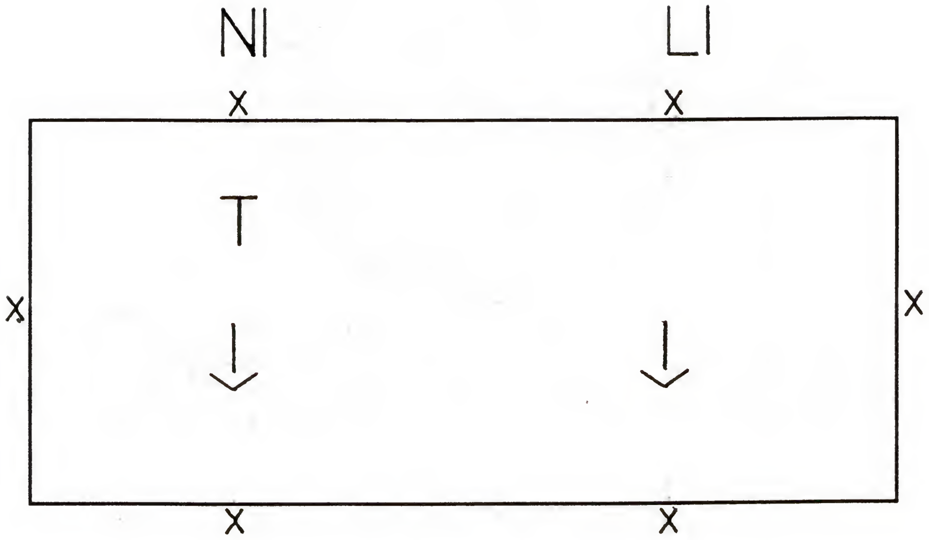
N1=narrator one
L1=listener one
X =placement of a chair
T =tape recorder
->=body orientation

Figure 2-1
Arrangement of pilot chairs
Opposite/without table condition



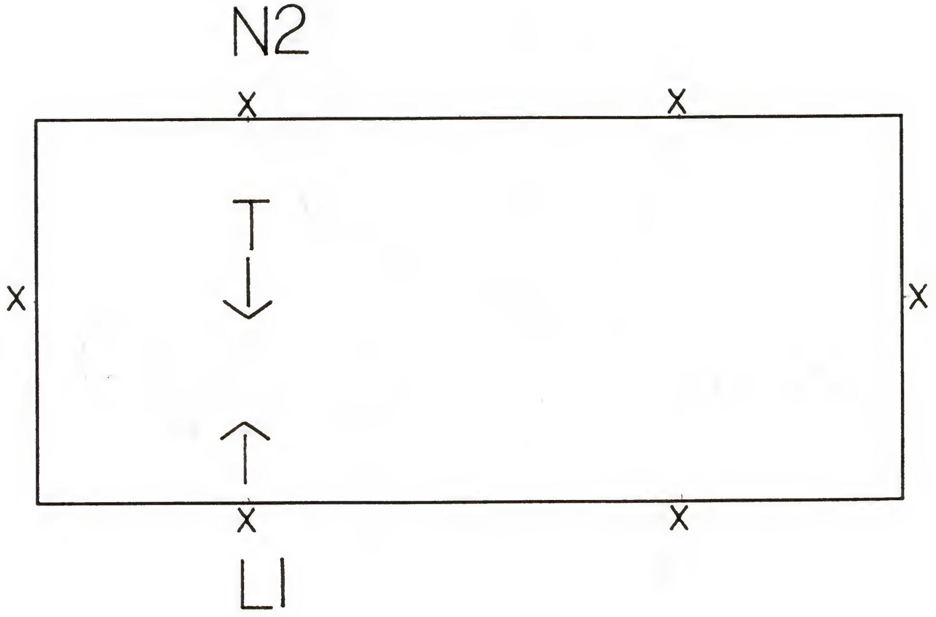
N2=narrator two
L1=listener one
X =placement of a chair
T =tape recorder
->=body orientation

Figure 2-2
Arrangement of pilot chairs
Opposite-each-other/with table condition



N1=narrator one
L1=listener one
X =placement of a chair
T =tape recorder
->=body orientation

Figure 2-3
Arrangement of chairs
Side-by-side seating



N2=narrator two
L1=listener one
X =placement of a chair
T =tape recorder
->=body orientation

Figure 2-4
Arrangement of chairs
Opposite-each-other seating

CHAPTER 3
RESULTS

Introduction

The results of the pilot study (Table 3-1, 3-2, 3-3) indicated that gender and seating arrangement played an important and significant role in narrative communication. There was a trend for gender to influence the amount of repetitions used in a narrative. Males showed a trend to used more repetitions and more vocal segregates than women when talking to a single female listener (Table 3-1). When it came to the seating arrangement variable, self-reference was influenced by where narrators sat. When narrators were sitting side by side with the listener, they talked about themselves more than when they were sitting opposite the listener. Seating arrangement also allowed narrators to use phonetic phrases with more words in them when they were in a side-by-side position (Table 3-2). Based upon the results of the pilot study, it was expected that gender in the main study would also influence the number of repetitions used and the number of vocal segregates used--namely that male narrators would use more vocal segregates and repetitions than female narrators when narrating to female listeners. Also based on the results of the pilot study it was expected that the results of the main study would indicate that seating arrangement would have a significant influence. Both males and females seated side by side with a listener had used more self-reference and had used longer phonetic phrases than those who had been seated opposite a listener.

These trends and the significant results obtained in the pilot study were not confirmed by the statistical results of the main study (Table 3-4, 3-5, 3-6). Emphasis must be placed on the fact that the pilot study followed Cherry's (1961) belief, namely face-to-face communication involving two people should be considered the most common form of human interaction. In the pilot study, the listener and the narrator were always seated facing each other at a distance of 40 inches. In the main study, narrators and listeners sat facing the table (with 40 inches between them) in the side-by-side arrangement.

Since the results of the main study were unlike those of the pilot study and did not follow the expected trends, each listener and their group of narrators were analyzed separately. The discussion of the results are based on the data derived from all three statistical tests. Since the results of the pilot study were all based on one listener and twelve narrators, the researcher decided to see if individual listeners in the main study were having a particular effect on the narratives gathered. The results of the main study were broken down into units similar to the unit of the pilot study, namely four groups made up of an individual listener and all the narrators that interacted with that listener.

Thus the raw data obtained in the main study were further analyzed according to each listener and their narrators. The data from each listeners and their narrators were isolated and statistically analyzed. The test showed that seating arrangement and gender significantly influenced two listener/narrator groups (Table 3-7, 3-8, 3-9) and had no significant influence of the other two listener/narrator groups. Due to the equivocal results of the three related studies, the results of the pilot study, the main study, and the independent analysis, have been included in this chapter. All the studies were analyzed using non-parametric tests that were judged relevant to the type of data gathered.

Types of Tests Used

The two statistical tests used on all the data were the Mann-Whitney U Test (Siegal 1956:116-127) the Kruskal-Wallis One-Way Analysis of Variance by Ranks (Siegal 1956:184-194) and an ANOVA for a two-factor Analysis of Variance.

Reading the Mann-Whitney Statistical Test Tables

Two tables are used to detail the results of the Mann-Whitney U test. In the first table, Table 3-1, are the results of an analysis done on males and females (gender) when it came to their different scores on each aspect of speaking style targeted in the research. The dependent variables are labelled. They are vc for vocal clarification, r for repetitions, vs for vocal segregates, sr for self-reference, 6+ for phonetic phrases with 6 or more words in them, and vp for verbal productivity. The Z score provided is the result of the statistical test and along side that score is an indication whether that score was significant (and to what degree) or whether it is not significant (ns). The test also shows the direction of the trend. If males scored higher than females, the result is shown by a higher score for males than for females and is indicated on the table by the (m>f) symbol. Table 3-2 signifies another Mann-Whitney U Test. Seating arrangement was the independent variable. When seating arrangement of side by side scored greater than opposite it was indicated by (s>o).

Reading the Kruskal-Wallis Statistical Tables

Table 3-3 indicates the results of the Kruskal-Wallis test which shows the significance of the effect that both gender and seating arrangement had on speaking style. The statistical H score is provided as is the significance level.

Results of the Pilot Study

Raw Data Collected

The raw data collected from the pilot study are provided in Appendix B table B-1.

Vocal clarification. The use of the vocal clarification "you know" was isolated in each phonetic phrase. The use of vocal clarifications was not significant for either gender (Z = 1.08) or seating arrangement (Z = 0.17) on the Mann-Whitney

U test (Table 3-1, 3-2). No significance was found on the Kruskal-Wallis test (Table 3-3).

Repetitions. Repetitions were counted by the number of repetitions of words or vocal segregates that occurred within phonetic phrases and in adjoining phonetic phrases. The Mann-Whitney results on the use of repetitions by gender gave a Z score of 1.63, which was another interesting trend. However the results can only be confirmed by using a larger sample. Males used more repetitions than females. When applied to seating arrangement, the difference was not significant (Z = 1.37) (Table 3-1, 3-2). The Kruskal-Wallis test reflected the Mann-Whitney U test. The H score was 7.172 significance at the .06 level (Table 3-3).

Vocal segregates. Vocal segregates were the non-fluencies that were detected in the phonetic phrases. Using a Mann-Whitney U test, it was found that the number of vocal segregates used by males as opposed to females had a Z score of 1.86 and showed an interesting trend. One of the considerations in formulating the main study was that a large N would help to really understand the role of vocal segregates in narrative communication. Seating arrangement seemed to have no significant effect on the use of vocal segregates (Table 3-1, 3-2). The Kruskal-Wallis test also showed no significance (Table 3-3).

Self-reference. Self-reference was coded as each time a narrator used word such as "me, mine, us, we, myself, our" in a phonetic phrase. The Mann-Whitney U Test of self-reference and gender was not significant (Z = 1.04), but self-reference and seating arrangement showed a probability of 0.01 with a Z = 2.25, side by side being greater that the opposite situation (Table 3-1, 3-2). The Kruskal-Wallis test showed an interesting trend. The H score was 7.243, significant at the .06 level (Table 3-3). It seemed as if narrators who were seated side by side tended to talk about more personal matters and use more self-references.

6+ phonetic phrase. After phonetic phrases had been identified, the number of words in each phrase was manually counted according to the word count procedures explained in the methodology section. A Mann-Whitney U test done on phonetic phrases (PP) that were six words or more was not significant when it was applied to gender (Z = 0.48) but was significant at the .002 level (Z = 2.9) when it was applied to seating arrangement, side by side being greater that opposite (Table 3-1, 3-2). Using the Kruskal-Wallis one way analysis of variance by ranks, a H score of 8.949 was received, which was significant at the .03 level (Table 3-3). The ANOVA two-factor analysis of variance was also significant. The pilot study concluded that narrative was influenced by seating arrangement resulting in narrators using phonetic phrases of 6+ words more often when they were seated side by side.

Verbal productivity. Verbal productivity referred to the actual chronological length of time each narrator used in the narrative. A Mann-Whitney U test done on verbal productivity (vp) showed that verbal productivity was not significant for gender (Z = 0.16) or seating arrangement (Z = 1.37) (Table 3-1, 3-2).

Results of the Main Study

Raw Data Collected

The raw data collected in the main study are provided in Appendix C, Table C-1.

Vocal clarifications. The use of vocal clarifications was not significant for either gender (Z = .433) or seating arrangement (Z = 1.268) on the Mann-Whitney U test (Table 3-4, 3-5). Likewise no significance was found on the Kruskal-Wallis test (H = 1.842) (Table 3-6).

Repetitions. The Mann-Whitney results on the use of repetitions by males and females gave a Z score of 1.103, which was not significant. When applied to seating arrangement, the difference was not significant (Z = 1.227) (Table 3-4, 3-5). The Kruskal-Wallis test reflected the Mann-Whitney U test. The H score was 2.794 (Table 3-6).

Vocal segregates. Using a Mann-Whitney U test, it was found that the number of vocal segregates used by males as opposed to females had a non significant Z score of .515. Seating arrangement seemed to have no significant effect on the use of vocal segregates (Z = .65) (Table 3-4, 3-5). The

Kruskal-Wallis test also showed no significance. The H score was 2.801 (Table 3-6).

Self-references. Mann-Whitney U Test of self-reference and gender was not significant (Z = -1.454) and seating and self-reference was not significant either (Z = .99) (Table 3-4, 3-5). The Kruskal-Wallis test showed no significance. The H score was 3.124 (Table 3-6).

6+ phonetic phrases. A Mann-Whitney U test of phonetic phrases that were six words or more was not significant when it was applied to gender (Z = .526) and was not significant (Z = .938) when it was applied to seating arrangement (Table 3-4, 3-5). Using the Kruskal-Wallis one way analysis of variance by ranks, a non significant H score of 1.344 was received (Table 3-6).

Verbal productivity. A Mann-Whitney U test of verbal productivity showed that verbal productivity was not significant for gender (Z = .113) or seating arrangement (Z = .134) (Table 3-4, 3-5). The Kruskal-Wallis test was not significant (H = .494) (Table 3-6).

Vocal clarifications and vocal segregates combined. Since vocal clarifications and vocal segregates are both a type of filled pause it was decided to combine and analyze them together as one variable. The Mann-Whitney U test showed no significance for seating arrangement (Z = 1.289) as did the Kruskal-Wallis test (Table 3-4, 3-5). The H score on the Kruskal-Wallis test was 3.757 (Table 3-6).

A Comparison of the Main study to the Pilot Study

Similar to the pilot study, the use of vocal clarifications was not significant for either gender or seating arrangement on the Mann-Whitney U test or the Kruskal-Wallis test. Males in the pilot study had used more repetitions than females, but this did not manifest itself in the main study. Similarly males in the pilot study had shown a trend to use more vocal segregates than females, which was not supported in the main study. In the pilot study narrators in the side by side position were seen to use more self-reference than those seated opposite each other, which was not supported by the main study. Results of the pilot study had showed that both males and females used more 6+ phonetic phrases when they were seated side by side with their listeners, which was not supported by the results of the main study. The pilot study had shown that there was no significance for the vocal productivity variable or the vc and vs combined variable,which was supported by the results of the main study.

Individual Analysis

Since the results of the main study showed no significance for any of the variables of speaking style in contradistinction to the pilot study, the data were studied in greater detail. Of particular interest was how the data of the pilot study may have been related to the data of the main study. Since the results of the pilot study were collected by one listener recording twelve narrators, the researcher analyzed the narrators of the main study in a similar manner. In order to investigate whether the narrators speaking to any particular listeners had used speaking style differently, the results of the main study were broken down into four groups made up of an individual listener and the narrators that interacted with that particular listener. Thus the raw data obtained in the main study were further analyzed according to each listener and their narrators. The data from each listeners and their narrators were isolated and statistically analyzed. The test showed that seating arrangement and gender significantly influenced two listener/narrator groups (Table 3-7, 3-8, 3-9) and had no significant influence of the other two listener/narrator groups.

Vocal clarifications. For vocal clarifications, the narrators of Listener #3 showed a significant score of 2.257 on the Mann-Whitney test for seating arrangement. At a probability of .02 on a two tail test (Table 3-7) the test reflected the tendency of narrators to use more "you knows" when they were seated opposite Listener #3 as opposed to beside Listener #3. The other groups showed no significance for vcs.

6+ phonetic phrases. Under the variable of 6+ phonetic phrases, the narrators of Listener #2 had a significant score by seating arrangement. The Z score was 2.242, opposite (8.8) being greater than side by side (4.2), a probability of .02 on a two tailed test (Table 3-8), which was the opposite of the trend predicted by the results of the pilot study.

Contrary to the results of the pilot study, seating arrangement for listener #2 caused narrators in the side by side position to use fewer 6+ phonetic phrases than in the opposite each other situation. Further analysis of these results showed that average number of PPs for mo, fo, ms, and fs situations were 23, 25.3, 13.3, and 19.3 (see Table 3-8). The other groups did not show significance.

Another development in the area of 6+ phonetic phrases was the finding that listener #3 had a significant Z score of 2.062 on the Mann-Whitney test by gender, a probability of .036 on a two tail test (Table 3-9). Males scored higher than females. Thus for listener #3, male narrators used more phonetic phrases with six or more words in them as opposed to their females counterparts. The other groups did not show significance.

Summary

From the above statistics it was possible to an observe an interesting array of results. Seating and gender had an effect on certain listeners and their narrative groups, but not on the group as a collective. Based on the results of the pilot study it was predicted that gender would influence repetitive behavior, namely males repeating more often than females when narrating to a female listener. Heeding the results of the pilot study it was also expected that males would use more vocal segregates than females when narrating to a female listener. Neither of these variables were statistically significant in the main study or for the individual listeners. Possible reasons will be discussed in the next chapter.

With respect to seating arrangement, again based on the results of the pilot study, it was expected that seating arrangement would have an effect of self-reference. All narrators were expected to talking about themselves more in the side by side situations which may have been seen to be more cooperative and friendly. Results of the main study and the results of the individual listeners did not support this hypothesis. Again, possible reasons are discussed in the subsequent chapter.

It was in the dependent variable of 6+ words in a phonetic phrase that significant findings were observed. Instead of the predicted dominance of 6+ phrases in the side by side situation, listener #2 had significantly more 6+ phrases in the opposite each other situation. That is to say that the narrators who spoke to listener #2 spoke longer phonetic phrases when they were seated opposite listener #2 as opposed to the narrators who sat beside the researcher in the pilot study.

Other significant results were that male narrators in listener #3's group used more 6+ phrases than the female narrators. The last significant result was that seating arrangement had an effect on the narrators in listener #3's group. Male and female narrators who were seated opposite listener #3 used more vocal clarifications than those who were in the side by side situation. These results and their possible implications are discussed in the next chapter.

Table 3-1
Results of the Mann-Whitney U Test
Pilot Study
Gender x Speaking Style

Gender x vc	z = 1.08		ns
Gender x r	z = 1.63	(m>f)	(directional trend)
Gender x vs	z = 1.86	(m>f)	(directional trend)
Gender x sr	z = 1.04		ns
Gender x 6+	z = 0.48		ns
Gender x vp	z = 0.16		ns

vc=vocal clarification
r =repetitions
vs=vocal segregates
sr=self-reference
6+=phonetic phrases with 6+ words
vp=verbal productivity

Table 3-2
Results of the Mann-Whitney U Test
Pilot Study
Seating Arrangement x Speaking Style

Seating x vc	z = 0.17		ns
Seating x r	z = 1.37		ns
Seating x vs	z = 1.05		ns
Seating x sr	z = 2.25	(s>o)	s (.01)
Seating x 6+	z = 2.9	(s>o)	s (.002)
Seating x vp	z = 1.39		ns

vc=vocal clarification
r =repetitions
vs=vocal segregates
sr=self-reference
6+=phonetic phrases with 6+ words
vp=verbal productivity

Table 3-3
Results of Kruskal-Wallis
One-way Analysis of Variance by Ranks
Pilot Study
Gender and Seating x Speaking Style

Gender/seating x vc	H = 6.264	ns
Gender/seating x r	H = 7.172	.06 (directional trend)
Gender/seating x vs	H = 5.225	ns
Gender/seating x sr	H = 7.243	.06 (directional trend)
Gender/seating x 6+	H = 8.949	s (.03)

vc=vocal clarification
r =repetitions
vs=vocal segregates
sr=self-reference
6+=phonetic phrases with 6+ words
vp=verbal productivity

Table 3-4
Results of the Mann-Whitney U Test
Main Study
Gender x Speaking Style

Gender x vc	z = 0.433	ns
Gender x r	z = 1.103	ns
Gender x vs	z = 0.515	ns
Gender x sr	z = 1.454	ns
Gender x 6+	z = 0.526	ns
Gender x vp	z = 0.113	ns

vc=vocal clarification
r =repetitions
vs=vocal segregates
sr=self-reference
6+=phonetic phrases with 6+ words
vp=verbal productivity

Table 3-5
Results of the Mann-Whitney U Test
Main Study
Seating Arrangement x Speaking Style

Seating x vc	z = 1.268	ns
Seating x r	z = 1.227	ns
Seating x vs	z = 0.65	ns
Seating x sr	z = 0.99	ns
Seating x 6+	z = 0.938	ns
Seating x vp	z = 0.134	ns
Seating x vs+vp	z = 1.289	ns

vc=vocal clarification
r =repetitions
vs=vocal segregates
sr=self-reference
6+=phonetic phrases with 6+ words
vp=verbal productivity

Table 3-6
Results of Kruskal-Wallis
One-way Analysis of Variance by Ranks
Main Study
Gender and Seating x Speaking Style

Gender/seating x vc	H = 1.842	ns
Gender/seating x r	H = 2.794	ns
Gender/seating x vs	H = 2.801	ns
Gender/seating x sr	H = 3.124	ns
Gender/seating x 6+	H = 1.344	ns
Gender/seating x vp	H = 0.494	ns
Gender/seating x vs+vp	H = 3.757	ns

vc=vocal clarification
r =repetitions
vs=vocal segregates
sr=self-reference
6+=phonetic phrases with 6+ words
vp=verbal productivity

Table 3-7
Result of Mann-Whitney U Test
Individual Analysis-Listener #3
Seating x Vocal Clarification

Seating x vc z = 2.257 (o>s) s (.02)

N	Age	Gender	Race	$	$$	vc
Narrators opposite						
L2	20	male	W	S	33	3
L5	22	male	W	S	30	10
L8	26	male	W	S	34	1
L7	21	female	W	S	30	7
L10	23	female	W	S	27	2
L12	22	female	W	S	37	4
PL11	26	female	W	S	40	8
Narrators side by side						
L1	21	male	B	S	25	0
L4	23	male	W	7000	130	2
L6	22	male	W	2500	25	0
L3	22	female	W	S	25	0
L9	26	female	W	4000	50	0
L11	23	female	W	S	40	2
PL10	27	female	W	7000	31	2
PL12	22	female	W	200	100	5

N=narrator
$=Personal estimated income per year
$$=Parents' estimated earnings per year (in thousands)
S=Student
B=Black
W=White

Table 3-8
Result of Mann-Whitney U Test
Individual Analysis-Listener #2
Seating x 6+ Phonetic Phrases

Seating x 6+ z = 2.242 (o>s) s (.02)

Narrators opposite

N	Age	Race	$	$$	6+
K2	20	W	700	35-45	27
K6	21	W	S	40	25
K9	25	W	15000	25	17
K1	19	W	S	45	30
K5	20	W	S	35	26
K11	32	W	S	32	21

Total number of 6+ phonetic phrases=146
Average number of 6+ phonetic phrases=24.3

Narrators side by side

N	Age	Race	$	$$	6+
K4	32	A	S	25	13
K7	20	W	S	40	13
K10	25	W	S	25	15
K3	20	W	S	35	23
K8	31	B	10000	n/a	14
K12	22	H	S	40	22

Total number of 6+ phonetic phrases=100
Average number of 6+ phonetic phrases=16.7
N=narrator
$=Personal estimated income per year (in thousands)
$$=Parents' estimated earnings per year
S=Student
B=Black
W=White

Table 3-9
Result of Mann-Whitney U Test
Individual Analysis-Listener #3
Gender x 6+ Phonetic Phrases

Gender x 6+ z = 2.062 (m>f) s (.036)

Male narrators

N	Age	Race	$	$$	6+
L1	21	B	S	25	21
L4	23	W	7000	130	25
L6	22	W	2500	25	23
L2	20	W	S	33	27
L5	22	W	S	30	24
L8	26	W	S	34	24

Female narrators

N	Age	Race	$	$$	6+
L3	22	W	S	25	24
L8	26	W	S	34	15
L12	22	W	S	37	14
PL10	22	W	S	31	21
PL12	22	W	200	100	18
L7	21	W	S	30	22
L10	23	W	S	27	17
L12	22	W	S	37	13
PL11	26	W	S	40	26

N=narrator
$=Personal estimated income per year
$$=Parents' estimated earnings per year (in thousands)
S=Student
B=Black
W=White

CHAPTER 4
DISCUSSION OF THE RESULTS

Overview of the Study

This study examined actual tape recordings of narrative content when seating arrangement was manipulated. All four listeners were females and all the narrators were friends of the female listener to whom they were speaking. Narrators were twenty-four males and twenty-four females. The data gathered represented some of the most basic behavior that takes place in human communication. This research examined communication output, both verbal and nonverbal, when seating arrangement is varied. In an attempt to answer the question "Did different seating arrangements between friends have an effect on their speaking style," all the volunteers were put into pre-arranged seating environments and given instructions designed to elicit a narrative which they told to their female friend. This study concentrated on the inter-relationship between coverbal communication (by studying verbal productivity, vocal segregates, vocal clarifications, vocal segregates and vocal clarifications combined, repetitions, self-reference, and number of words in a phonetic phrase), narrative communication (by collecting stories told to a friend), seating arrangement (the opposite-each-other and side-by-side arrangements), and gender research (males and females narrating to female listeners). It was hoped that the researcher would learn more about the speaking style of the narrators when seating arrangement and gender were manipulated. The effect of seating arrangement and gender on speaking style were also isolated and analyzed.

Interpretation of the Results

As mentioned earlier, this study attempted to answer seven questions relating seating arrangement, gender, and speaking style. Each question is discussed below.

1. Did seating arrangement and gender have a significant influence on vocal clarification? The overall answer to this question was ambiguous. Whereas no significant result was found in the pilot study and no significant conclusion could be found in the main study, a significant result was found in the data on Listener #3. The result of the individual analysis on Listener #3 showed that seating had an influence on vocal clarification. At a significance level of .02 narrators sitting opposite Listener #3 used "you know" more often than those sitting beside Listener #3. The average number of vcs for narrators sitting opposite Listener #3 was 5 compared to the average of 1.4 for narrators sitting beside Listener #3. Whereas in the opposite each other position every narrator used at least one vc, four narrators did not use any vcs in the side-by-side condition. Table 3-7

illustrates the age, race, and socio-economic status of the narrators in the two conditions.

Side by side seating may have been interpreted by narrators as being a friendly and intimate situation whereas opposite each other seating arrangement may have been interpreted as a more formal situation. As the formality of a communication situation increases, there may be more concern on the part of the speaker to be clearly understood by the listener.

There are numerous ways in which one can make sure that one is being clearly understood (speaking slower, using a common language, watching a listener's nonverbal facial expressions). One can also ask the listener verbally whether the listener is clearly following the speaker. Sentences like "do you understand me" "do you know what I mean" and "you know" all seek to verbally seek clarification from the listener. This may have caused narrators sitting opposite to Listener #3 to use more vcs than those sitting beside Listener #3.

2. Did seating arrangement and gender have a significant influence on repetitions? When gender and repetitions were analyzed, the results showed a directional trend for males to use more repetitions than females. Gender and seating also showed a directional trend on the Kruskal-Wallis test. When these results were further tested in the main study and the individual analyses, no significant result was found in any

of the tests. Repetitions did not differ for males or females whether they sat opposite or by the side of the listeners.

3. Did seating arrangement and gender have a significant influence on vocal segregates? The only area in which a directional trend was found was in the pilot study. From that analysis it looked as if there could be a tendency for males to use more vocal segregates than females. Since Mahl and Schulze (1964:52) had proposed that an insecure person may speak with frequent nervous mannerisms it was speculated that males may have felt more insecure than females when speaking to a female friend. These trends were not supported by the results of the main study or the individual analysis. A reason for this may be the friendly relationship between the narrators and the listeners. Since listeners were asked to chose narrators that were equally close in friendship to them, these narrators had no reason to feel nervous or awkward with their friend.

4. Did seating arrangement and gender have a significant influence on self-reference? The results of all the studies showed that seating arrangement and gender did not have an influence on self-reference, that is to say that there was no statistical difference between either males or females in the amount of self-reference they used. One of the most logical reasons for this could have been the degree of familiarity between the narrators and the listeners. Since the listeners

were always friends of the narrators they may have felt free and confident to talk about themselves to their friend.

The second reason could have been the structure of the experiment itself. In the eighth sentence of the instructions that each listener followed was the sentence "your answers will be totally confidential, and I can erase any part of the tape that you would not like to leave this room (Appendix A). The narrators knew that their stories would be kept confidential and that they could request that parts of their tapes be erased, if they so desired. No narrator took advantage of this offer, but the knowledge that the whole study was confidential and non-threatening may have led to narrators using equal amounts of self-reference in all situations.

5. Did seating arrangement and gender have a significant influence on phonetic phrases? Results of the pilot study showed narrators and listeners seated side by side had more 6+ PPs than those seated in an opposite-each-other situation. The Kruskal-Wallis test for the pilot study also showed a significant score for gender and seating arrangement.

These results were not supported by the main study. It must be pointed out that the main study was not exactly similar to the pilot study. For example, in the main study narrator and listeners were facing each other in the opposite each other situation. They were facing the table in the side-by-side situation. In the pilot study narrators in the side-by-side situation sat facing each other. It may have been that the body orientation between the narrator and the listener had some effect on the communication between them.

When it came to the results of the individual analyses, the Mann-Whitney U test produced some interesting results. For Listener #2, narrators who were in an opposite each other seating arrangement had significantly more 6+ PPs than those in the side by side seating arrangement. This was contrary to the results of the pilot study that found narrators in the side by side situation using more 6+ PPs than those in the opposite each other situation. As discussed earlier, the opposite each other seating arrangement may have been judged as a formal situation by the narrators. In a formal situation, a speaker is usually careful of one's communication message often resulting in long descriptive sentences with fewer pauses and hesitations. This may have cause narrators to use 6+ PPs in the opposite each other situation.

In the case of Listener #3 the test showed a correlation between gender and 6+ Phonetic Phrases at a significant level. Male narrators used significantly more 6+ PP than female narrators when talking to Listener #3. Applying the rationale applied above, male narrators may have judged the whole situation to be more formal than female narrators judged it to be. This increased sense of formality may have caused male narrators to use more 6+ PP than the female narrators.

6. Did seating arrangement and gender have a significant influence on verbal productivity? Seating arrangement and gender did not seem to have a significant influence on verbal productivity. The results of this study indicated that males and females whether they were seated side by side or opposite the female listener, talked equally long to the female listener friend. When we consider the rejected narratives (fewer than fifty phonetic phrases), it was intriguing to note that all belonged to males who were seated in a side by side situation with their female friends. Harper, Weins, and Matarazzo (1978:51) said that "various indices have been employed to measure the amount of speech a person produces as an indicator or variations in his(/her) psychological state. Anxiety had been perhaps the single variable most frequently related to verbal productivity." Discussing a review done by Murray (1971:53) they said that "an inverted U relationship is hypothesized whereby at low levels of stress verbal productivity will increase with stress, but as anxiety or stress increases, verbal productivity will diminish." They did caution that the application of this interpretation must be considered tentative as only a few of the studies Murray reviewed had employed speech rate measures and that several studies that came after the Murray review showed that anxiety-arousal situations could produce higher verbal productivity.

7. Did seating arrangement and gender have a significant influence on vocal segregates and vocal clarifications

combined? No statistical correlation was found for this. Probably the best explanation was that this experience was not anxiety arousing for any of the narrators. They were comfortable with their friends, were used to speaking to them on a long term basis and therefore did not use hesitancies, vocal segregates, or vocal clarification in an inconsistent manner.

Future Considerations

Below are some suggestions for future researchers into the realm of speaking style. Hopefully scholars of the future will benefit from these remarks.

A vocal clarification was defined as anytime a speaker sought to clarify a phonetic phrase with the words "you know." It was while transcripts were being made up and during the analysis of these transcripts that other pertinent vocal clarifications were revealed. Future studies must not neglect vocal clarifications such as the popular usage of :Okay," nor the consistent use of "I mean," "like," and "let's see."

Repetitions were defined as two identical words repeated one after the other in the same phonetic phrase, or two identical phrases which were uttered one after the other. The researcher now believes that this definition was too uncompromising and does not cover the conglomeration in which repetitions can manifest themselves. A study of repetitions needs to include any fragments of a repetitions, such as "it was a bl blue bird," an approximate repetition such as "I's

I was four years old," or "she was born to born in the north," and repetitions across phonetic phrase such as "it was easy to tell/ she was on the phone/ it was easy to tell she was mad."

This was originally defined as any filled pause, unfinished word, or non-meaningful sound that occurred within the phonetic phrase or that constituted an independent phonetic phrase. For example, "uh," "da," "ar" were counted as vocal segregates. While listening to each narrative, the researcher often encountered a bilabial plosive sound, a "pop" made by both lips coming together. This sound was being used as a vocal segregate and does not occur anywhere in the literature. For future research it will be labelled a "bilabial plosive vocal segregate."

Prior to the collection of the data for this study it was decided that only narratives that had at least fifty phonetic phrases in them would be analyzed. This was done for statistical and methodological reasons. In the course of this study this decision was seen to result in some possible research limitations. For example, the researcher had to reject three tape recordings of narratives which were less than the required fifty phonetic phrases.

Valuable information may have been lost by this rejection. Those narratives, even though they contained less than the required fifty phonetic phrases, may have contained beneficial information and may have assisted the understanding of the effect that seating arrangement and gender has on speaking style. The restrictions put on this study by the methodology may have resulted in impairing it. For the future a suggestion is made to study all the data provided by all narratives regardless of their paucity of phonetic phrases.

Data were gathered by investigating each phonetic phrase. If a phonetic phrase had a single occurrence of any variable of speaking style, that phrase was counted once. For example, within the variable of self-reference a phonetic phrase such as "so we could get home" was counted once because the phonetic phrase had the self-referent we embedded in it. This system worked well if there was only one manifestation of a variable. However the researcher believes that in some cases the system did not take advantage of the complexity of the data provided. In particular there were instances when there were two displays of the same variable in a single phonetic phrase. Similar situations were found in recording more than one vocal clarification in a phonetic phrase, more than one repetition in a phonetic phrase, more than one vocal segregate in a phonetic phrase, and more than one self-reference in a phonetic phrase. For example, in a phonetic phrase such as "we knew that my brother and I were being bad" there are three instances of self-reference which could have only been counted once. This system may be contributing to the loss of valuable data. Future researchers must discuss and develop an alternative system which will take advantage of the depth of detail provided by the speaking style data.

Summary

This research has examined the effect that seating arrangement and gender has on speaking style. Since this is an area that has received limited attention by other researchers, it is difficult to make comparisons between the results of this study and the findings of other. Relying on related research on seating arrangement and proxemics, it has been shown that changes in seating arrangement affected frequency of conversations (Sommer and Ross, 1958), preferences in seating among college students (Sommer and Lott, 1967), and perceptions of anxious subjects (Heston, 1974). Gender differences in seating arrangement and proxemics have been studied by Shuter (1976) and Cline and Puhl (1984). Interpersonal communication research into gender differences have examined the roles and norms which influence and reflect the relationship between interacting individuals (Gallois, 1976), the gender competitiveness (Deutsch, 1949) among communicating partners (Deutsch, 1949), and communication dominance (Hayes, 1957: Argyle, Lalljee, and Cook, 1968: Meltzer, Morris, and Hayes, 1971) Markel, Long, and Saine (1976) assessed gender effect of speakers and listeners on temporal measures of conversational interaction at different interpersonal distances.

Heeding Jones and Aiello's (1979) warning that in order for research into seating arrangement to be valid "projective" and "quasiprojective" research methodology should be rejected, the recommended "interactional" methodology was used in this research. Even within the limited results of the present study it is clear that researchers in disciplines such as speech and human communication, education, psychology, anthropology, and social work need to pay particular attention to the influence seating arrangement and gender may be having on communication events. There are several additional areas that deserve future analysis.

One area suggested is an exploration into the relationship between gerontology, gender, and communication variables. With the projected increase in the number of senior citizens in the United States, researchers need to investigate how gender and increasing age influences the use of seating. Different perceptions of comfort in seating arrangements among the elder males and females may influence speaking style. Another suggested area is in cross-cultural communication. Researchers will benefit from knowing whether the variable of gender and seating arrangement in cross-cultural communication has an effect on speaking style. A third suggestion would address how people of varying status perceive differences in seating arrangement and gender. Status is known to effect most communicative events and researchers who seek to find out more about the role of seating arrangement and the role of gender in communication need to explore the dynamics of these variables on speaking style. A final suggestion that deserves attention pertains to interactions where either or both members of a dyad are physically handicapped. Physically handicapped people are often dependent on ambulatory mechanisms which may physically restrict their use of preferred seating arrangements. Researchers need to study how seating arrangement and gender in handicapped dyads may influence their style of communication. A study of these area would benefit all models of human interaction and interpersonal perception. As long as humans remain communicating beings, they will always accompany a large variety of vocal behaviors with the dynamics of speaking style.

APPENDIX A
TRAINING INSTRUCTIONS

Training of Listeners

Hi, thank you for coming to this training session. Before we start I want to thank you for your help and for your time. I am sure that you are curious about what we will be doing today and in the days to come. Here is my agenda for today's session.

1. Describe my dissertation research
2. Discuss the role that you will play in this research
3. Outline the methodology that we will follow for the research
4. Answer any question that you still have
5. Practice the methodology that you have learned

My Dissertation Research

My dissertation is in communication studies which is essentially the study of how humans communicate with one another. For my research, I am especially interested in conversations and speaking style among friends. I am also curious to see the effect that seating arrangement may have on these conversations. What I mean is that does it have any communication effect when you are sitting opposite your friends or when you are sitting beside them.For example, if you are L1 (listener 1) and your two friends are N1 and N2 (narrator one and narrator two) respectively, is there any effect on communication patterns when seating arrangement looks like Figure A-1 or Figure A-2. The conversations you will be collecting will be as natural as possible. The narrators will not know that we are also studying seating arrangement, and you must make sure that you do not tell them. (Listeners were told not to tell their narrators that seating arrangement was being manipulated for this study. It was clearly explained how the narrators possessing this knowledge would contaminate the entire study, and they were carefully warned not to mention seating arrangement to their friends.) When your friends ask you what we are studying you may tell them "we are interested in the type of conversations that friends have with one other." Once again, do not say anything about seating arrangement. Please choose twelve good friends, six male and six female who are native speakers of English and are of general college age. I will provide you with instructions that you should give to each friend that you chose. These instructions will explain the study, give the location of the waiting room, the time that they are expected to arrive, and instructions to wait at the south end of Dauer Hall (near the Dauer Hall sign) in the extremely rare chance that the building is locked and they cannot get in. See Figure 5 for a copy of these instructions.

Your Role in the Research

The experiments will take place in this room. Another room will be used as a waiting room and all the narrators will report there. While the narrators are waiting, I will arrange the chairs to suit the arrangement that we want. It is very important that the narrators do not move to another chair. If a narrator does get up and go to another chair, or get up and move around the room, or anything unusual, continue the experiment without mentioning anything to them, but let me know what happened when the experiment is over. Since it is important that you come across as the same to each and every narrator, here are some suggestions.

1. Be equally friendly to each narrator both in tone and manner
2. Be as normal as possible. Try to forget, as much as possible, that you are in a research environment.
3. Dress in casual but not sloppy campus wear, something that you would everyday with these friends (the narrators) in an informal casual environment. In short, you are to wear what you would normally wear on campus.
4. Try to forget that you are in an experimental situation and converse as if you are not being tape recorded for a study. Try to forget the circumstances that you are in.

Research Methodology

Let me describe a perfect experiment. The narrator will report to the waiting room. I will greet them there and escort them to this room. You will be in the room, and the chairs, and the tape recorder will be in position. I will indicate where the narrator is to sit and say thanks for coming to this meeting. Before we begin the study, I am going to say a few words into the tape recorder and then leave the room. When I leave the room (name of listener) will give you further instructions. (Name of listener), please call me when you have finished your conversations.

I will turn the tape recorder on and check to make sure that it is recording. What I will say into the tape recorder is:

1. Today is (date)
2. The experimenter is (your name and number of the narrator)

Please me when you are done. When I leave the room, you take over. Keep this paper with you, and try to say these words exactly but in a conversational manner. (Please let me know if the wording is what you could say naturally. If you would like to change the wording, we will do it as a group right now.)

You say: As you know, we are part of a Communication Studies project that is interested in how people communicate with each other. I am going to ask you a few questions and ask you to describe a particular event for me. It is important that you feel relaxed and natural. Please feel free to ask me questions before we start the study. I will start by asking you a few personal questions and then I will ask you to describe a longer situation for me. Please take as long as you need to discuss this situation. No part of this study should be difficult for you to discuss. Your answers will be totally confidential, and I can erase any part of the tape that you would not like to leave this room. Before I start the group of personal questions, do you have any questions to ask me?

You do: Wait for verbal or nonverbal reply.

You say: Once again, let me remind you to answer the questions as fully as possible and to take as long as you need. We are in no rush.

You do: Asked the following questions one by one and waited for a full answer to each before moving on to the next. Remember to act naturally when you are listening to each answer.

1. (Name of friend), how have you been today? (Listeners said that they would prefer to say "so, how are you today." Their suggestion was accepted.)
2. How do you feel about your classes this semester?
3. Are you planning to be here for the summer term?
4. Do you have, or plan to have a part time job for the summer term?
5. Could you tell me about your first year in college, what was it like, etc.?

You say: We are now finished with the first section and are ready to move onto the second and final part of this study.

I now have a longer situation that I would like you to describe. Please take as much time as you need to describe this experience. I encourage you to describe it as fully as you possibly can. Remember, you may take as long as you feel necessary. Are you ready? O.K., let us continue. (Listeners suggested that "Are you ready? O.K., let us continue" be removed. Their suggestion was accepted.)

6. What I would like you to describe for me is an interesting experience. For example, it could be something interesting that happened to you, to one of your friends, or to a family member. It could be an interesting T.V. show that you saw, a story that you read, an event that you heard about, or an interesting movie that you have seen. Take as long as you need to describe this event. You may start whenever you are ready.

You do: Repeat the instructions when requested to do so and listen to the narrative in a natural manner. Wait till the narrative is over.

You say: Thank you very much for telling me that story and for being part of this research study. I really do appreciate your help. Please wait here for further instructions.

You do: Leave the room immediately.

Make sure that you leave the room promptly so that I can go back in and turn the tape recorder off. I will also give each of your friends a very short questionnaire to fill out to make sure that they felt natural in the study. They will respond to the question Please write down your reactions to this study. When you leave the room, you too will fill out a similar piece of paper to respond to how you felt that the study went. If there was anything unusual, please indicate it on the questionnaire.

Since we are trying to achieve controlled randomization, please adhere as closely as possible to the attached schedule. See Table A-1. For your own convenience, it would be better if you invited six narrators in one session, and the other six on a second session. Plan on about twenty minutes with each narrator. I have drawn up a hypothetical schedule for you to use. See Table A-2. I am very flexible in my own schedule (if possible avoid MW from 12-4 and F from 2-4) and can meet you and your friends at any time as long as I have adequate notice. I have been told that this room is booked on Monday and Wednesday evenings so let us plan around that.

Questions That You Have

Practice the Methodology

Hand out Instructions for the Narrators

Table A-1
Schedule for narrators

L1		L2		L3		L4	
Day1	Day2	Day1	Day2	Day1	Day2	Day1	Day2
ms	fs	fo	ms	ms	fo	fo	ms
fs	fo	mo	fs	mo	mo	mo	ms
mo	fs	fs	mo	fs	fs	ms	fo
fo	fo	ms	ms	ms	fo	mo	fs
ms	mo	fo	fo	mo	fs	mo	fo
mo	ms	mo	fs	ms	fo	fs	fs

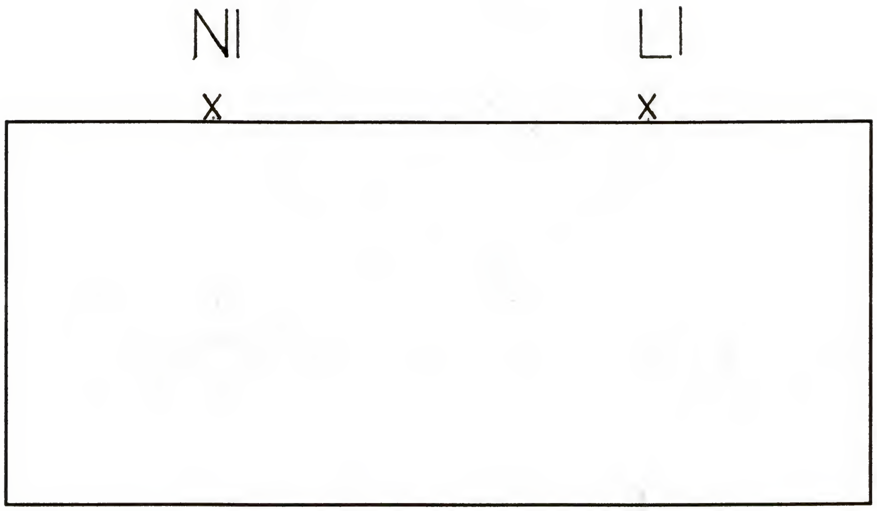
Table A-2
Scheduling of narrators

5.00	n1
5.20	n2
5.40	n3
6.00	n4
6.20	n5
6.40	n6

Instructions to Each Narrator

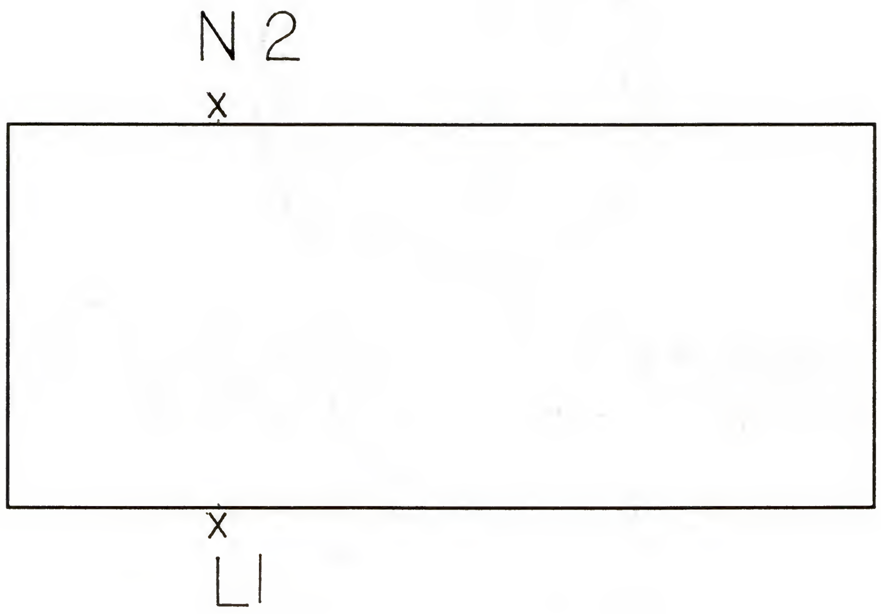
Thank you for agreeing to be part of a project in the study of conversations. Your friend will arrange the best time for the two of you to get together. The date arranged is ____________________ and the time arranged is ____________________. Please come to the waiting room in 352A Dauer Hall. Dauer Hall is the new name for the Arts and Science Building (ASB). Please consult the map if you are not sure of it. It is advisable for you to bring a book or a magazine in case you have to wait an extra few minutes. There is an extremely remote chance that the building may be locked in the evenings. In that case please wait at the south end of Dauer Hall (near the Dauer Hall sign, see map) and we will come and fetch you into the building. I urge you to be on time so that we can stay on schedule. Thank you once again.

Anita Raghavan
University of Florida



N1=narrator one
L1=listener one
X =placement of a chair

Figure A-1
Arrangement of chairs
Side-by-side condition



N2=narrator two
L1=listener one
X =placement of a chair

Figure A-2
Arrangement of chairs
Opposite-each-other condition

APPENDIX B
RAW DATA COLLECTED IN THE PILOT STUDY

Table B-1
Raw Data Collected in the Pilot Study

	vc	r	vs	sr	6+	vp
fs	0	3	3	30	33	107
fs	0	0	4	11	31	530
fs	0	0	2	20	22	150
fo	1	0	8	9	5	187
fo	2	0	3	0	8	131
fo	3	5	5	7	12	60
ms	8	11	16	14	30	120
ms	4	6	6	28	29	408
ms	1	8	4	18	32	294
mo	0	0	7	16	16	82
mo	0	5	6	11	11	131
mo	4	0	6	14	18	347

vc=vocal clarification
r =repetitions
vs=vocal segregates
sr=self-reference
6+=phonetic phrases with 6+ words
vp=verbal productivity (in seconds)

APPENDIX C
RAW DATA COLLECTED IN THE STUDY

Table C-1
Raw Data Collected in the Study

	vc	r	vs	sr	6+	vc+vs	vp
fs	7	5	10	24	35	17	2.15
fs	1	4	7	23	24	8	5.23
fs	3	3	13	19	18	16	4.02
fs	0	2	8	5	23	8	4.07
fs	0	2	7	13	14	7	2.47
fs	3	2	6	23	22	9	3.02
fs	0	9	9	24	24	9	2.25
fs	0	4	11	13	15	11	2.24
fs	2	2	4	28	14	6	2.15
fs	5	5	3	8	18	8	2.20
fs	2	5	11	24	22	13	1.03
fs	2	1	14	16	21	16	2.13
fo	6	2	19	10	20	25	3.58
fo	1	3	7	18	23	8	2.06
fo	0	11	3	11	16	3	2.09
fo	6	7	12	19	30	18	2.34
fo	1	1	5	27	26	6	1.56

Table C-1 continued

	vc	r	vs	sr	6+	vc+vs	vp
fo	2	7	25	19	21	27	6.26
fo	7	3	12	27	22	19	3.02
fo	2	5	19	10	17	21	1.36
fo	4	6	16	13	13	20	5.25
fo	8	5	4	17	26	12	5.30
fo	0	2	12	16	17	12	1.57
fo	1	1	14	6	24	15	3.14
ms	0	2	16	16	27	16	2.49
ms	2	5	5	21	23	7	1.15
ms	0	0	5	1	19	5	3.56
ms	0	2	15	16	13	15	2.50
ms	8	3	13	20	13	21	1.09
ms	1	3	16	16	15	17	1.01
ms	0	5	14	26	21	14	2.32
ms	2	7	12	7	25	14	12.19
ms	0	4	19	19	23	19	3.03
ms	3	7	5	18	21	8	2.57
ms	1	6	10	7	18	11	2.48
ms	7	4	7	8	27	14	8.17
mo	1	5	2	16	30	3	9.38
mo	1	12	13	20	27	14	3.43

Table C-1 continued

	vc	r	vs	sr	6+	vc+vs	vp
mo	1	4	13	13	15	14	2.34
mo	2	4	16	15	27	18	2.22
mo	2	17	19	29	25	21	6.47
mo	9	5	11	14	17	20	2.24
mo	3	4	6	21	27	9	1.03
mo	10	1	6	6	24	16	2.45
mo	1	5	13	2	24	14	1.42
mo	0	10	6	1	10	6	1.37
mo	1	3	12	10	13	13	1.37
mo	4	5	6	10	24	10	3.01

vc=vocal clarification
r =repetitions
vs=vocal segregates
sr=self-reference
6+=phonetic phrases with 6+ words
vp=verbal productivity (in minutes)

APPENDIX D
PERSONAL INFORMATION ON NARRATORS

Table D-1
Break-down by age, race and socio-economic status

N	Age	Race	$	$$
C1	21	H	S	40
C2	23	W	S	40
C3	22	H	S	25
C4	22	W	S	35
C5	20	B	S	30
C6	23	W	S	45
C7	22	W	S	40
C8	20	W	S	40
C9	23	W	1000	40
C10	19	W	S	30
C11	25	A	S	25
C12	22	W	1180	80
K1	19	W	S	45
K2	20	W	700	35-45
K3	20	W	S	35
K4	33	A	S	50
K5	20	W	S	35
K6	21	W	S	40
K7	20	W	S	40

Table D-1 Continued

N	Age	Race	$	$$
K8	31	B	10000	n/a
K9	25	W	15	20
K10	25	W	S	25
K11	36	W	29000	100
K12	22	H	S	40
L1	21	B	S	25
L2	20	W	S	33
L3	22	W	S	25
L4	23	W	7000	130
L5	22	W	S	30
L6	22	W	2500	25
L7	21	W	S	30
L8	26	W	S	34
L9	26	W	4000	50
L10	23	W	S	27
L11	23	W	S	40
L12	22	W	S	37
P1	27	W	S	40
P2	27	W	S	35
P3	25	W	S	40
P4	32	W	700	30

Table D-1 Continued

N	Age	Race	$	$$
P5	26	W	S	32
P6	24	A	3000	25
P7	26	A	S	32
P8	27	W	S	25
P9	23	W	S	30
P10	27	W	7000	31
P11	23	W	S	40
P12	22	W	200	100

N=Narrator
S=Student
$=Personal estimated earnings per year
$$=Parents'estimated earnings per year (in thousands)
A=Asian
B=Black
H=Hispanic
W=White

REFERENCES

Argyle, M., and A. Kendon. (1967) The experimental analysis of social performance. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology (Vol. 3). New York: Academic Press.

Argyle, M., M. Lalljee, and M. Cook. (1968) The effects of visibility on interaction in a dyad. Human Relations, 21, 3-17.

Bandura, A. (1962) Social learning through imitation. In M. R. Jones (Ed.), Nebraska Symposium on Motivation (Vol. 10). Lincoln: University of Nebraska Press.

Brady, P. T. A. (1968) A statistical analysis of on-off patterns in 16 conversations. Bell System Technical Journal, 47, 73-91.

Brady, P. T. A. (1969) A model for generating on-off speech patterns in two-way conversations. Paper presented at the annual meeting of the Acoustical Society of America, Philadelphia, April 1969.

Burgoon, Judee K., and Stephen B. Jones. (1976) Toward a theory of personal space expectations and their violations. Human Communication Research, 2, 2, 131-146.

Burgoon, Judee K., Don W. Stacks, and W. Gill Woodall. (1979) A communicative model of violations of distancing expectations. Western Journal of Speech Communication, 43, 153-167.

Byrne, P. (1971) The Attraction Paradigm. New York: Academic Press.

Cassotta, L., Stanley Feldstein, and Joseph Jaffe. (1964) AVTA: A device for automatic vocal transaction analysis, Journal of the Experimental Analysis of Behavior, 7, 99-104.

Chafe, Wallace L. (1982) Integration and involvement in speaking, writing, and oral literature. In Deborah Tannen (Ed.), Spoken and Written Language:Exploring Orality and Literacy. Norwood, N.J.: Ablex Publishing Corporation.

Chapple, Eliot D. (1939) Quantitative analysis of the interaction of individuals. Proceedings of the National Academy of Sciences, 25, 58-67.

Chapple, Eliot D. (1940) Personality differences as described by invariant properties of individuals in interaction. Proceedings of the National Academy of Sciences, 26, 10-16.

Chapple, Eliot D. (1953) The standard instrumental experimental (stress) interview as used in interactions chronograph investigations. Human Organization, 12, 23-28.

Chapple, Eliot D. (1970) Cultural and Biological Man: Explorations in Behavioral Anthropology. New York: Holt, Rinehart and Winston.

Chapple, Eliot D. and Harding, C. F., III. (1940) Simultaneous measures of human relations and emotional activity. Proceedings of the National Academy of Sciences, 26, 319-326.

Cherry, C. (1961) On Human Communication: A Review, a Survey, and a Criticism. New York: Sciences Editions.

Cline, Rebecca J., and Carol A. Puhl. (1984) Gender, culture, and geography: A comparison of seating arrangements in the United States and Taiwan. International Journal of Intercultural Relations, 8, 199-219.

Condon, W. S., and W. D. Ogston. (1966) Sound film analysis of normal and pathological behavior. Journal of Nervous and Mental Disease, 143, 338-347.

Deutsch, Morton. (1949) A theory of co-operation and competition, Human Relations, 2, 129-152.

Duncan, Starkey D. Jr. (1972) Some signals and rules for taking speaking turns in conversations. Journal of Personality and Social Psychology, 23, 283-292.

Duncan, Starkey D. Jr. (1974) On the structure of speaker-auditor interaction during speaking turns. Language in Society, 2, 161-180.

Feldstein, Stanley, and Joan Welkowitz. (1978) A chronography of conversation: In defense of an objective approach. In A. W. Siegan and S. Feldstein (Eds.), Nonverbal behavior and communication. New York: Wiley.

Gallois, C. (1976) Turn Taking: Synchony and Sex in Conversational Interaction. Doctoral dissertation, University of Florida.

Goldman-Eisler, Freida. (1954) On the variability of the speed of talking and on its relation to the length of utterance in conversation, British Journal of Psychology, 45, 95-107.

Goldman-Eisler, Freida. (1968) Psycholinguistics: Experiments in Spontaneous Speech. London: Academic Press.

Gott, L. A., C. N. Winget, and G. C. Glaser. (1965) Manual of Instructions for Using the Gott Glaser Content Analysis Scales. Berkeley: University of California Press.

Gumperz, John. (1977a) The conversational analysis of interethnic communication. In E. Lamar Ross (Ed.), Interethnic communication. Proceedings of the Southern Anthropological Society. Athens: University of Georgia Press.

Gumperz, J. (1977b) Sociocultural Knowledge in Conversational Inference. 28th Annual Roundtable Monograph Series on Languages and Linguistics. Washington D.C.: Georgetown University.

Gumperz, John, and Celia Roberts. 1978. Developing Awareness Skills for Interethnic Communication. Middlesex, England: National Center for Industrial Language Training.

Hall, Edward T. (1959) The Silent Language. Garden City, N.Y.: Doubleday and Co.

Hall, Edward T. (1966) The Hidden Dimension. Garden City, N.Y.: Doubleday and Co.

Hall, Judith A. (1984) Nonverbal Sex Differences: Communication Accuracy and Expressive Style. London: The John Hopkins University Press.

Hansen, J. E., and W. J. Schuldt. (1982) Physical distance, sex, and intimacy in self-disclosure. Psychological Reports, 51, 3-6.

Harper, Robert G., Arthur N. Wiens, and Joseph D. Matarazzo. (1978) Nonverbal Communication: The State of the Art. New York: John Wiley and Sons.

Hayes, F. (1957) Gestures: A working bibliography. Southern Folklore Quarterly, 21, 218-317.

Heston, Judee K. (1974) Effects of personal space invasion and anomia on anxiety, nonperson orientation and source credibility. The Central States Speech Journal, 25, 1, 19-27.

Hosman, Laurence A. (1989) The evaluation consequences of hedges. hesitation, and intensifiers. Human Communication Research, 15, 3, 383-406.

Jaffe, Joseph. (1961) Dyadic analysis of two psychotherapeutic interviews. In Gottshalk, Louis A. (Ed.), Comparative Psycholinguistic Analysis of Two Psychotherapeutic Interviews. New York: International University Press Inc.

Jones, Stanley E., and John R. Aiello. (1979) A test of the validity of projective and quasi-projective measures of interpersonal distance. Western Journal of Speech Communication, 43, 143-152.

Knapp, Mark L. (1978) Social Intercourse: From Greeting to Goodbye. Boston: Allyn and Bacon.

Knapp, Mark L. (1980) Essentials of Nonverbal Communication. New York: Holt, Rinehart and Winston.

Knapp, Mark L., and Gerald R. Miller. (Eds.) (1985) Handbook of Interpersonal Communication. Beverly Hills: Sage.

Lakoff, Robin Tolmach. (1982) Some of my favorite writers are literate: The mingling of oral and literate strategies in written communication. In Deborah Tannen (Ed.), Spoken and Written Language: Exploring Orality and Literacy. Norwood, N.J.: Ablex Publishing Corporation.

Labov, William. (1972a) Sociolinguistic Patterns. Philadelphia: University of Pennsylvania Press.

Labov, William. (1972b) The transformation of experience in narrative syntax. In Language in the Inner City. Philadelphia: University of Pennsylvania Press, 354-396.

Lalljee, M. C. (1971) Disfluencies in normal English Speech. Ph.D. Dissertation: Oxford University.

Lennard, H. L., and A. Bernstein. (1960) The Anatomy of Psychotherapy: System of Communication and Expectation. New York: Colombia University Press.

Linde, C., and William Labov. (1975) Spacial networks as a site for the study of language and thought. Language, 51, 924-939.

Lomax, A. (1968) Folk Song Style and Culture: With Contributions by the Cantometrics Staff. American Association for the Advancement of Science Publication 88. Washington, D.C.: American Association for the Advancement of Science.

Lomax, A. (1975) Culture-style factors in face-to-face interaction. In A. Kendon, R. M. Harris, and M. R. Key (Eds.), Organization of Behavior in Face-to-Face Interaction. The Hague: Mouton.

Lomax, A., N. Berkowitz, D. Deng, C. Kulig, and N. Markel. (1977) A stylistic analysis of speaking. Language in Society, 6, 15-36.

Mahl, George F., and G. Schulze. (1964) Psychological research in the extralinguistic area. In T. A. Sebeok, A. S. Hayes, and M. C. Bateson (Eds.), Approaches to Semiotics. The Hague: Mouton.

Mahl, George F. (1987) Explorations in Nonverbal Behavior. Hillsdale, N.J.: Lawrence Erlbaum Associates.

Markel, Norman N. (1975) Coverbal behavior associated with conversation turns. In A. Kendon, R. M. Harris, and M. R. Key (Eds.), Organization of Behavior in Face-to-Face Interaction. The Hague: Mouton.

Markel, Norman N. (in press) Speaking style as an expression of solidarity: Words per pause, Language in Society.

Markel, Norman N., M. F. Bein, W. W. Campbell, and M. E. Shaw. (1976) The relationship of self-rating of expressed inclusion and speaking time. Language and Speech.

Markel, Norman N., J. M. Long, and T. J. Saine. (1976) Sex effects in conversational interaction: Another look at male dominance. Human Communication Research.

Matarazzo, J. D. (1965) Psychotherapeutic processes. Annual Review of Psychology, 16, 181-224.

Matarazzo, J. D., A. N. Wiens, R. G. Matarazzo, and G. Saslow. (1968) Speech and silence behavior in psychotherapy and its laboratory correlates. In J. M. Schlien (Ed.), Research in Psychotherapy (Vol. 3). Washington, D.C.: American Psychological Association.

Matarazzo, J. D., and A. N. Weins. (1972) The Interview: Research on its Anatomy and Structure. Chicago: Aldine-Atherton.

Matarazzo, J. D., G. Saslow, and A. Hare. (1958) A factor analysis of interview interaction behavior. Journal of Consulting Psychology, 22, 419-429.

Mehrabian, A. (1970) A semantic space for nonverbal behavior. Journal of Consulting and Clinical Psychology, 35, 248-257.

Mehrabian, A. (1971) Nonverbal communication. In J. K. Cole (Ed.), Nebraska Symposium on Motivation (Vol. 19). Lincoln: University of Nebraska Press.

Mehrabian, A., and S. Ksionzky. (1970) Models for affiliative and conformity behavior. Psychological Bulletin, 74, 110-126.

Meltzer, L., W. N. Morris, and D. P. Hayes. (1971) Interruption outcomes and vocal amplitude: Explorations in social psychophysics, Journal of Personality and Social Psychology, 18, 392-402.

Miller, G. A. (1964) The psycholinguists: On the new scientists of language. Encounter, 23, 29-37.

Murray, D. C. (1971) Talk, silence, and anxiety. Psychological Bulletin, 75, 244-260.

Nimocks, Mittie Jo Ann. (1986) The Indian Independence Movement Under the Leadership of Mahatma Gandhi and the U.S.A. Civil Rights Movement Under the Leadership of Dr. Martin Luther King, Jr.: A Comparison of Two Social Movements to Assess the Utility of Nonviolence as a Rhetorical Strategy. Doctoral Dissertation. Gainesville: University of Florida.

Norwine, A. C., and O. J. Murphy. (1938) Characteristic time intervals in telephone conversation. Bell System Technical Journal, 17, 281-291.

Pittenger, R. E., C. F. Hockett, and J. J. Danehy. (1960) The First Five Minutes. Ithaca: P. Martineau.

Rosenfeld, H. M. (1967) Nonverbal reciprocation of approval: An experimental analysis. Journal of Experimental Social Psychology, 3, 102-111.

Sacks, H., E. Schegloff, and G. Jefferson. (1974) A simplest systemiatics for the organization of turn taking in conversation. Language, 50, 696-735.

Scheflen, A. E. (1973) The Stream and Structure of Communicational Behavior. Bloomington: Indiana University Press.

Schegloff, Emanuel A. (1982) Discourse as an interactional achievement: Some uses of "uh-huh" and other things that come between sentences. In Deborah Tannen (Ed.), Analyzing Discourse: Text and Talk. Washington: Georgetown University Press.

Scollon, Ron, and Suzanne B.K. Scollon. 1981. Narrative, literacy and Face in Interethnic Communication: Vol. VII in the series advanced Volume VII in the series advances in discourse processes. Norwood, New Jersey: Ablex.

Shuter, Robert. (1976) Proxemics and tactility in Latin America. Journal of Communication, 26, 3, 46-52.

Siegal, Sidney. (1956) Nonparametric Statistics for the Behavioral Sciences. New York: McGraw Hill.

Sommer, Roger. (1965) Further studies of small group ecology. Sociometry, 28, 337-348.

Sommer, Roger. (1969) Personal Space. Englewood Cliffs: Prentice Hall.

Sommer, Roger, and D. F. Lott. (1967) Seating arrangement and status. Journal of Personality and Social Psychology, 7, 90-95.

Sommer, Roger, and H. Ross. (1958) Social interaction in a geriatric ward. International Journal of Social Psychiatry, 4, 128-133.

Tannen, Deborah. (1986) That's Not What I Meant: How Conversational Style Makes or Breaks Your Relations with Others. New York: William Morrow and Company, Inc.

Tannen, Deborah. (1982) Oral and literate strategies in spoken and written narrative, Language, 58, 1, 1-21.

Trager, G. L. (1958) Paralanguage: A first approximation. Studies in Linguistics, 13, 1-12.

Trudgill, Peter. (1983) Sociolinguistics: An introduction to language and society. New York: Penguin Books.

Watson, O. M. (1972) Conflicts and direction in proxemic research. Journal of Communication, 22, 443-459.

Wolf, Lonn. (1987) Effects of visibility and gender in dyadic interaction. In George F. Mahl (Ed.), Explorations in Nonverbal and Vocal Behavior. Hillsdale, N.J.: Lawrence Erlbaum Associates.

Young, David. (1988) Projection and deixis in narrative discourse. In Nikolas Coupland (Ed.), Styles of Discourse. New York: Croom Helm.

Ziegler, M., and M. King. (1975) Research Projects in Social Psychology. Monterey, California: Brooks/Cole.

BIOGRAPHICAL SKETCH

Anita Raghavan was born in Madras, India, in 1956. As a child and teenager she lived in London, Kanpur, Bombay, and Calcutta. She received her Indian School Certificate from La Martiniere High School in 1973. Her early decision to become an elementary school teacher led to a Trained Teachers' Certificate from Loreto College, Government of West Bengal in 1977. Anita applied for and received a teaching appointment at her, then, "dream job"--teaching elementary education in the beautiful Himalayan town of Darjeeling. She also taught at her alma mater La Martiniere.

It was a desire to travel and explore other countries that led her to work with Air France. While she was working at that job, she received a letter of acceptance from the University of South Florida in Tampa. After hurried travel arrangements, teary farewells to friends and family, and an incredibly long journey, she arrived in New York only to move on to Tampa in a few days.

Life in Tampa was a challenge and lots of fun as Anita came into contact with the American way of life. She will always be grateful to the friends who helped her through those trying years. It is mainly to them that she owes her bachelor's degree in communication received in 1980. She returned to India, worked with disadvantaged children in a program set up by her alma mater, and found time to travel and explore her own country.

News that she had been accepted into the graduate program in communication at the University of South Florida, and that she had received a graduate teaching assistantship, persuaded her to return to Tampa. Anita received her master's degree in 1983.

The learning bug had bitten hard and deep. Admission into the University of Florida and another graduate teaching assistantship found Anita packing up her stuff and moving to Gainesville. It was in that town and on that campus that she met the most precious person in her life, her husband, Robert Lawless.

Anita would like to continue working at something "meaningful," lead a happy life, and carry on her exploration of the world. She is employed by Mental Health Services of North Central Florida, Inc.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Norman N. Markel

Norman N. Markel, Chairman
Professor of Speech

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Anthony J Clark

Anthony J. Clark
Associate Professor of Speech

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Paul J Jensen

Paul J. Jensen
Professor of Speech

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Linda Wolfe

Linda Wolfe
Associate Professor of Anthropology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Robert C. Ziller
Professor of Psychology

This dissertation was submitted to the Graduate Faculty of the Department of Speech in the College of Liberal Arts and Sciences and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August 1989

Dean, Graduate School